

ALL-IN-1



Mail Management Guide

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Preface

Product: ALL-IN-1 Version 2.4

Purpose of this Guide

The *ALL-IN-1 Mail Management Guide* describes how to manage an ALL-IN-1 mail system. It covers planning and setting up the mail system, managing the mail system so that mail is delivered promptly, and solving mail problems that arise.

This guide documents the default ALL-IN-1 system, which is an ALL-IN-1 system without any customization.

Audience

To manage an ALL-IN-1 mail system as described in this book, you should:

- Be familiar with using ALL-IN-1 mail. If you have never used an electronic mail system before, you need one or two months' experience of using ALL-IN-1. If you have used other electronic mail systems, but not ALL-IN-1, one or two weeks' experience of ALL-IN-1 is sufficient.
- Understand the terms and concepts of Message Router. If you do not understand them, read the introductory books in the Message Router documentation set.
- Know how to maintain users' ALL-IN-1 accounts, and how ALL-IN-1 files are organized. To learn this, read the appropriate chapters in the *ALL-IN-1 Management Guide*.

How To Use this Guide

Read the first chapter of this guide for an overview of how ALL-IN-1 mail systems work. The chapter on addressing, sending and delivering mail also contains some background information that may be helpful.

Before installing ALL-IN-1, read the chapter on planning, to decide how to set up the mail system.

The tasks to do are listed in the chapters on setting up and managing. Use these chapters and the problem solving chapter for reference.

Books in the Management Documentation Set

The following documents make up the ALL-IN-1 Management documentation set:

- *ALL-IN-1 Installation Guide Part 1 Base Installation*

This part describes the steps required to install ALL-IN-1 and contains information specific to the base component. Although it is a large book, you need only refer to the chapters relating to the type of installation that you are going to perform.

- *ALL-IN-1 Installation Guide Part 2 Language Installation*

This part contains information specific to the language that you are installing; a version is supplied with each language component. Refer to this part as indicated in the *ALL-IN-1 Installation Guide Part 1 Base Installation*.

- *ALL-IN-1 Installation Guide Part 3 Market Installation*

This part contains information specific to your market component. Refer to this part as indicated in the *ALL-IN-1 Installation Guide Part 1 Base Installation*. Note that this document may not exist for all market components.

- *ALL-IN-1 Release Notes Part 1 Language*

This part contains information about problems in the ALL-IN-1 Version 2.4 international base component and about problems that are specific to the language component that you install. Where possible, workarounds to the problems are also described.

- *ALL-IN-1 Release Notes Part 2 Market*

This part contains information about problems that are specific to the ALL-IN-1 Version 2.4 market component. Note that this document may not exist for all market components.

- *Differences Between ALL-IN-1 Version 2.3 and ALL-IN-1 Version 2.4*

This document introduces the new and changed functionality, and describes the problems that have been fixed, in ALL-IN-1 Version 2.4. In addition, there are answers to some common questions about the new version, and details of packaging, software requirements, and changes to the documentation.

- *ALL-IN-1 Management Guide*

This guide describes the tasks for setting up and managing an ALL-IN-1 system, so that it operates efficiently. The guide also explains how to improve performance, how to incorporate customizations, and how the ALL-IN-1 files are organized within VMS.

- *ALL-IN-1 Mail Management Guide*

This guide describes how to manage an ALL-IN-1 mail system. The major management concern is to ensure that all messages sent to and from local ALL-IN-1 users are delivered.

- *ALL-IN-1 Administration Guide*

This guide describes the ALL-IN-1 administration tasks, which include maintaining ALL-IN-1 on a day-to-day basis and supporting users. The administration tasks are defined by the ALL-IN-1 manager, and are available from the Administration menu.

- *ALL-IN-1 Modifying Printer Tables*

This guide describes the use of printer tables, and teaches you how to use the printer table utility to customize existing printer tables to meet your needs.

Related Books

In addition to the ALL-IN-1 Management documentation set, your ALL-IN-1 kit contains a user documentation set and a programming documentation set.

The user documentation set contains:

- ALL-IN-1 Getting Started*
- ALL-IN-1 Quick Lookup*
- ALL-IN-1 User's Reference*
- ALL-IN-1 User Changes*
- ALL-IN-1 Keyboard Reference Cards*
- ALL-IN-1 Keyboard Diagram Cards*
- WPS-PLUS Quick Lookup*
- WPS-PLUS Editor Functions*
- WPS-PLUS List and Sort Processing*

The programming documentation set contains:

- ALL-IN-1 Application Programming: Getting Started*

ALL-IN-1 Application Programming: Guide
ALL-IN-1 Application Programming: Mini-Reference
ALL-IN-1 Application Programming: Reference Volume 1
ALL-IN-1 Application Programming: Reference Volume 2
ALL-IN-1 Application Programming: User Interface Standards
ALL-IN-1 Application Programming: Index
WPS-PLUS Accessing External Applications

You may find it useful to refer the documentation for the following products:

VAX/VMS documentation for the version of VMS running on your system
Message Router
Message Router VMSmail Gateway
Message Router/P Gateway
Message Router/S Gateway
Message Router X.400 Gateway
Message Router Telex Gateway
ULTRIX Mail Connection
ALL-IN-1 Mail for VMS
ALL-IN-1 Mail for MS-DOS

Conventions

The following conventions are used throughout this guide:

ALL-IN-1	Means ALL-IN-1™ office automation system
WPS-PLUS	Means WPS-PLUS™ software
Message Router	Means Message Router™ software
DECnet	Means DECnet™ computer protocol
VMSmail	Means the VAX/VMS Mail Utility
Red Print	Indicates entries you make at the terminal.
Code example	Indicates prompts and messages from the computer.
lower case	Indicates that you substitute a valid expression in an ALL-IN-1 function call, or in a command or command procedure.
UPPER CASE	Indicates keyboard keys and GOLD functions.
Press	Indicates that you make one keystroke with an editing or command key. For example, press RETURN.
Enter	Means type a command or response, or type information into a menu or form, and then press a terminator key such as RETURN.
< >	Indicates display that is variable.

CTRL/z	Indicates that you hold down the CTRL key while pressing the other key (z).
GOLD x	Means press the GOLD key, labeled PF1 on some keyboards, then press the key for the function. For example, GOLD TOP.
. . .	Indicates that you can enter additional information.
.	Indicates that the example can or does contain more data or text than is shown.
.	
.	
1	Marks the order of the steps to complete a procedure.
2	
3	
a.	Marks steps within a major step in a procedure.
b.	
c.	

Key Naming Conventions

The management books use the same key naming conventions as the user books. Whenever the books refer to a key, they specify a function name, instead of the name of the key. This means that the books are not keyboard-specific. For example, the books tell you to press GOLD MENU to display the Index menu. On a standard US keyboard, this translates to PF1 M, but in another language, or on a customized system, it may be different.

To use ALL-IN-1, you need to have a copy of each of the following cards for your keyboard. The cards must match the language variant of your keyboard.

- *ALL-IN-1 Keyboard Reference Card*, which contains tables showing the key to use for each function.
- *ALL-IN-1 Keyboard Diagram Card*, which contains illustrations of the keyboard showing the key to use for each function.

To locate the other function keys that you need for ALL-IN-1 management, see the appendix in the *ALL-IN-1 Management Guide* on function keys.

Overview of ALL-IN-1 Mail Networks

1.1 Introduction

As ALL-IN-1 mail manager, you are responsible for:

- Planning and setting up ALL-IN-1 mail on your node, so that users can send and receive mail messages
- Managing the ALL-IN-1 mail facilities, and ensuring that ALL-IN-1 mail is operating efficiently
- Tracing faults and solving problems that affect ALL-IN-1 mail

You need to work with the Message Router manager and, if any Message Router gateways are installed, with their managers, to ensure that mail is sent and received properly.

You must also work with these managers in planning and configuring Message Router, and in the planning decisions affecting the network which your node belongs to. For example, it is important at the network planning stage to know:

- Which other mail systems your users want to exchange messages with, so that you know which gateways are needed in the network. For example, to exchange messages with users of IBM PROFS, the Message Router/P Gateway must be installed somewhere on your network.
- The number of users on your node, and the proportion of mail they send to local ALL-IN-1 users, as compared with mail to non-ALL-IN-1 users and remote ALL-IN-1 users. This information helps determine how to set up the Message Router Directory Service.

The rest of this chapter provides an overview of ALL-IN-1 mail networks.

1.1.1 What is a Mail Network?

A mail network consists of a number of nodes, linked together so that users can send messages to each other. Users communicate in a network using electronic mail.

Electronic mail is similar to postal mail in that users can send and receive messages. In both cases, the user sending the mail writes a message and addresses it, without having to know how the mail reaches its destination. Electronic mail has the following advantages over postal mail:

- Communication is fast. Electronic mail messages move a lot faster than paper mail.
- Distance is unimportant. You see little difference between sending mail to someone on the same node or VAXcluster, and to someone on the other side of the world.
- If you have access to a directory of users' names and addresses as part of your mail system, you will not usually need to know the address of a person you send mail to. You can address the message with their name only.
- You receive notification if the message does not reach its destination.

The components of an ALL-IN-1 mail network include:

- DECnet
- Message Router
- ALL-IN-1
- Any Message Router gateways that are required, such as the Message Router VMSmail Gateway, the Message Router X.400 Gateway, or gateways not produced by Digital.

1.2 DECnet

DECnet is the name given to the software and hardware that allow Digital systems to form networks, and so to communicate with each other. DECnet provides the necessary facilities, such as controlling the physical links and allowing messages to be transferred. Users are not aware of how DECnet operates during day-to-day use of ALL-IN-1.

1.3 Message Router

Message Router is the basis of an electronic mail system. Message Router transfers messages across a mail network, and maintains a directory of users of the mail system.

ALL-IN-1 uses Message Router to send messages to and receive messages from other nodes. ALL-IN-1 users do not see Message Router in operation, and do not need to know it exists.

Message Router is supplied with ALL-IN-1. It is usually installed on the same node as ALL-IN-1, *the local node*, but it can be installed on another node, a *remote node*. Installing on a remote node is known as using a *remote Message Router*, and is usually done for ALL-IN-1 systems that have a limited amount of disk space; for example, ALL-IN-1 on a MicroVAX system. ALL-IN-1 uses a DECnet link to the remote Message Router to send and receive messages.

Message Router contains a *Transfer Service*, a *Directory Service*, and a *Management Service*. The following sections summarize these services, and explain their significance for ALL-IN-1 mail. For more detailed information about Message Router, see the Message Router documentation.

1.3.1 Message Router Transfer Service

The Transfer Service is a *Message Transfer Agent* (MTA) on the mail network. Each Transfer Service contains a list of *mailboxes* that it uses to route messages. A mailbox is a collection point for the messages to a user, a user agent (for example, ALL-IN-1), or a gateway (for example, the Message Router VMSmail Gateway).

Transfer Services at separate nodes communicate with each other, providing a *store-and-forward* message transfer service. If a node on the route of a message is not operating, the Transfer Service on the preceding node stores the message until the other node is restored to the network. If the Transfer Service is unable to deliver the message, it sends a non-delivery message to the person who sent the message. You can specify the length of time for which the Transfer Service stores the message.

1.3.2 Message Router Directory Service

The Message Router Directory Service is a single distributed application, which is used not only by ALL-IN-1, but also by addressing services for some of the Message Router gateways, such as the Message Router X.400 Gateway. If any of these gateways are part of your mail network, the Directory Service makes it easy for ALL-IN-1 users to address mail to other mail systems through the gateways.

ALL-IN-1 can use Message Router with or without the Directory Service. For ALL-IN-1 to use the Directory Service, Message Router must be installed on the same node as ALL-IN-1.

The Directory Service maintains a database of the names, mail addresses, and other details of subscribers (users) on the mail network. This database is known, within ALL-IN-1, as the *Mail directory*, and it consists of a:

- **Permanent database.** This contains entries for all the local subscribers, which includes the ALL-IN-1 users on the local node, as well as users of the gateways that are installed locally. The permanent database holds the master copies of these subscriber entries, so that these entries must be maintained at this node.

On a *world search node*, the permanent database contains copies of all the subscriber entries from all the other nodes in the network.

- **Cache.** The cache contains entries for subscribers who are not in the local permanent database, but to whom local users have recently addressed mail.

The size of the cache is limited. When the limit is reached, existing entries are deleted as new entries are added. The entries deleted from the cache are those that have not been used for the greatest length of time.

The cache is limited by default to 200 entries, although you can change the limit when configuring Message Router.

World search nodes do not need a cache, since the permanent database on each of these nodes contains copies of all the subscriber entries.

Users can search the local permanent database and the cache using the Search mail directory (SMD) option, and they can perform a world search using the Search other mail directories (SOM) option. For details of these options see the Message Header menu in the *ALL-IN-1 User's Reference*.

Every node that uses the Directory Service holds a list of all the nodes or clusters in the network that also use the Directory Service. This list is known as the Directory Service *nodes list*. One of the nodes in the network owns this list, and is known as the *master node*. The master node must be the first node on which the Message Router Directory Service is configured.

1.3.3 Message Router Management Service

The Management Service monitors the mail network for error and exception conditions, and allows the routine management of Message Router. You can use the Message Router Management Service to monitor the operation of ALL-IN-1 mail, and to provide exception reports on certain error conditions and unusual events. If an error or unusual event occurs, the exception reporting routines send a VMSmail message to the account specified when Message Router is configured. The exception reporting routines use VMSmail to ensure that, even if ALL-IN-1 or Message Router is not working, the problem is reported.

The default account for receiving exception reports is the MBMANAGER account on the *network management node*. The network management node is usually the one where most of the network management tasks are performed, and it is monitored by the Message Router manager. When an exception report is produced for ALL-IN-1, the person who has received the exception report must notify you, the ALL-IN-1 mail manager.

To use exception reporting, you need to configure the Management Service and exception reporting on your node.

1.4 Message Router VMSmail Gateway

VMSmail is the mail utility included with the VMS operating system. VMSmail cannot exchange messages directly with Message Router.

The Message Router VMSmail Gateway, known as MRGATE, allows ALL-IN-1 users and VMSmail users to exchange mail. This gateway acts as an interface between Message Router and VMSmail, translating the encoding of messages sent between the two systems.

The Message Router VMSmail Gateway is supplied with ALL-IN-1. It is not necessary to install the gateway on your node, but it must be somewhere in the network if you want to send mail to VMSmail users.

1.5 ALL-IN-1 User Agent

ALL-IN-1 is a *user agent* on the mail network. A user agent provides an interface that allows users to create messages. A user agent is necessary because the Message Router Transfer Service and Directory Service are not visible to users. Instead, users see the menus and forms that ALL-IN-1 provides, and use them to create messages. The ALL-IN-1 Electronic Messaging subsystem is the part of ALL-IN-1 that enables users to send and receive mail messages.

ALL-IN-1 also handles the exchange of messages between users on the same node or cluster. If the destination of the message is not on the same node or cluster, ALL-IN-1 passes the message to the Message Router Transfer Service, which routes the message to its destination.

You can also build your own application to use electronic messaging, or customize the menu systems supplied with ALL-IN-1. For detailed information, see the ALL-IN-1 application programming documentation.

1.5.1 ALL-IN-1 Mailbox

The ALL-IN-1 mailbox is a queue in which Message Router stores messages for delivery to ALL-IN-1. The name of the mailbox is, by default, A1.

The mailbox has an owner, and sometimes a password. By default, the owner is ALLIN1, which is the default name for the VMS account of the ALL-IN-1 Postmaster. Message Router uses the owner and password for authentication before allowing ALL-IN-1 to access the mailbox.

See the chapter on setting up for full details.

1.5.2 Sender and Fetcher Batch Jobs

The ALL-IN-1 Sender batch job, OA\$LIB:OAMTISEND.COM, sends messages from ALL-IN-1 to the ALL-IN-1 mailbox. The ALL-IN-1 Fetcher batch job, OA\$LIB:OAMTIMAIL.COM, fetches messages from the ALL-IN-1 mailbox and delivers them to ALL-IN-1 users.

If Message Router is installed at a remote node or cluster, the Sender sends messages to the remote ALL-IN-1 mailbox and the Fetcher fetches messages from the remote ALL-IN-1 mailbox.

During installation of ALL-IN-1, both the Sender and the Fetcher are set up to be submitted at regular intervals. Depending on the number of messages sent and received by your system, you may want to increase or decrease the frequency with which the Sender and Fetcher batch jobs are submitted, to improve the performance of ALL-IN-1. For details of how to change this frequency, see the chapter on managing ALL-IN-1 mail.

The installer also specifies which system batch queue to use for the Sender and Fetcher batch jobs. The logical name OA\$MTI_QUEUE defines the queue. The default queue is the SYS\$BATCH queue. For details of how to switch the Sender and Fetcher batch jobs to another queue, see the chapter on managing ALL-IN-1 mail.

All sending processes, including the Sender batch job, write to the log file defined by the logical name, OA\$MTI_LOG. Errors from the Sender and Fetcher are recorded in the file defined by the logical name OA\$MTI_ERR.

1.5.3 Postmaster Account

The Sender and Fetcher batch jobs use the ALL-IN-1 Postmaster account to send and receive mail. You must not log in to the Postmaster account, as this interferes with the running of the Sender and Fetcher.

The Postmaster account belongs to the VMS account, ALLIN1, and has a default ALL-IN-1 password of DECMAIL. To change the password from DECMAIL, you must change it in the Postmaster's ALL-IN-1 account details, and in the files OAMTISEND.COM and OAMTIMAIL.COM.

The account has a directory, [ALLIN1.POSTMASTE], like any other ALL-IN-1 account. It uses the same files as a normal user's directory.

1.6 Network Profile

The network profile is a list of ALL-IN-1 and non-ALL-IN-1 users and their mail addresses. The network profile includes:

- Local ALL-IN-1 users whose addresses need to be known by ALL-IN-1 users on other nodes. The Mnode field in the account details indicates whether or not a local user is in the network profile. If you edit a user's account details, the relevant information is automatically updated in the network profile.
- Remote ALL-IN-1 users whose account details indicate that they are in the network profile, and whose accounts are on nodes in the *multi-nodes file*. The housekeeping procedure, Update Mail Addresses (UA), updates the network profile by collecting the latest information from the nodes in your multi-nodes file. Another housekeeping procedure, Delete Old Mail Addresses (DA) deletes entries that have been marked for deletion at the nodes in the multi-nodes file.
- Other users who may or may not have ALL-IN-1 accounts and whom you have added to the network profile by using the Maintain mail addresses (MAD) option on the Manage Messaging menu. The information on these accounts is maintained by the UA housekeeping procedure, in the same way as the information on ALL-IN-1 accounts.

The ALL-IN-1 manager schedules the housekeeping procedures. For full details see the *ALL-IN-1 Management Guide*.

2.1 Introduction

This chapter covers issues relating to planning:

- The use of the Mail directory, and how to populate it. It is important that you read this chapter before you use the Mail directory with ALL-IN-1.
- The configuration of the Message Router exception reporting routines.
- The network profile, who should be registered in it, and what network topology to use to ensure that the network profile stays up to date.

2.1.1 Directories Provided with ALL-IN-1

ALL-IN-1 has two directories:

- **The ALL-IN-1 directory**, which is always available. This contains the ALL-IN-1 account names of all the ALL-IN-1 users on your node. The ALL-IN-1 directory is contained in the file `OA$DATA_SHARE:PROFILE.DAT`.
- **The Mail directory**, which is optional. This contains the names, mail addresses, and other details of all Mail directory subscribers on the network.

If you used previous versions of ALL-IN-1, you may also have set up a network profile. The network profile contains the names and mail addresses of local and remote users, whose accounts are set up so that their addresses are known at the other nodes in the network. These users may or may not have ALL-IN-1 accounts. The network profile is contained in the file `OA$DATA_SHARE:NETWORK.DAT`.

One of the directories is set up as the *primary directory*. This is the directory that is searched when users enter an addressee's name in the TO or CC fields of the message header. If the addressee is not found in the primary directory, ALL-IN-1 automatically searches the network profile.

Users can search the *secondary directory* using options from the Message Header menu. (See the *ALL-IN-1 User's Reference* for details of these options.) If the addressee is not found in the secondary directory, the user can still address the message, by entering the addressee's electronic mail address.

2.2 Planning the Use of the Mail Directory

It is essential that you plan the use of the Mail directory as a whole, and take into consideration what other products, both on and off the node, use it. These products include the Message Router gateways. You need to make the following decisions at each node or cluster:

- Should you use the Mail directory in ALL-IN-1? You can choose to adopt the Mail directory when you install ALL-IN-1, or you can adopt it after installation.
- Which directory should you use as the primary directory for validating addresses at the TO and CC fields?
- Should the node be a world search node for the Mail directory or not?
- Are any of your ALL-IN-1 users already registered in the Mail directory?

2.2.1 Benefits of Using the Mail Directory

The Mail directory is available when addressing mail messages, when scheduling Time Management events, and when creating distribution lists. Anyone can be registered in the Mail directory, even if they use mail systems that are not in your network, such as X.400 network users.

The Mail directory offers the following features:

- The Mail directory is easy to use and does not require users to know the exact location of addressees.
- A user can have more than one version of his or her name, such as a common misspelling of a name, or a married or maiden name. This means that people can find the user by entering any of these versions of the name.
- The Mail directory enables users to search for addressees on the basis of a wide range of attributes. For example, if a user is not sure of an addressee's full name, he or she can search the directory for that addressee by entering part of their name, or the department where they work. A user can also identify groups of addressees on the basis of attributes that they have in common.

The *ALL-IN-1 User's Reference* describes how to use the Mail directory.

2.2.2 Costs of Using the Mail Directory

You cannot use the Mail directory unless Message Router is installed and running locally. The costs associated with this include the following:

- Disk space for the Message Router installation
- Memory and processor time to run the Mail directory)
- Disk space to store the Mail directory

Using the Mail directory with ALL-IN-1 increases the size of the ALL-IN-1 image, and imposes a slight additional load on memory. This additional load is largely independent of the number of users on your ALL-IN-1 system.

Since the implementation of the Mail directory increases memory usage, systems that are short of memory are affected more than those that have plenty of memory. Once you have set up the Mail directory for use with ALL-IN-1, the time taken for users to log in to ALL-IN-1 is increased slightly, as is the time taken to use mail functions for the first time in an ALL-IN-1 session. The extent of this increase in performance times depends on the number of users on the system.

2.2.3 Which Directory Should be the Primary Directory?

Digital recommends that you use the ALL-IN-1 directory as the primary directory and the Mail directory as the secondary directory, so that response time is reduced.

When a user enters an addressee's name in the TO or CC field, ALL-IN-1 searches for that addressee in whichever directory is primary. Since Mail directory searches are more complex than searches of the ALL-IN-1 directory, they take longer when the Mail directory is the primary directory.

The Mail directory is intended to be used after local mechanisms have failed to supply addressing information. Its intended use is analogous to a telephone directory, which you use to look up a number for the first time. If you know that you are likely to use that number again in the future, you make a note of it in a personal directory, where it is easier to look up. Similarly, ALL-IN-1 users should take advantage of local addressing methods such as nicknames and distribution lists once they have found a person's details in the Mail directory.

You can use the Mail directory as the primary directory, despite the increased response time, if the majority of your mail is to non-ALL-IN-1 users, or remote ALL-IN-1 users.

The factors to consider before choosing the Mail directory as the primary directory are:

- How much mail is sent to non-ALL-IN-1 users. If most mail goes through the various gateways, rather than to local ALL-IN-1 addressees, your users have to search the Mail directory for the addresses. If the Mail directory is primary, this search is done automatically at the TO field, and so saves the users some key presses.
- How many other nodes on the network use the Mail directory and have populated it with their users. There is little value in using the Mail directory as primary if it does not contain users from other nodes.

If the Mail directory is the primary directory, the response time for processes that use the Mail directory is increased. Response times for other processes are affected less. As a rough guideline, to maintain the same level of performance on a mid-range system, when the Mail directory is primary, you need to reduce the maximum number of active users by three or four. When the Mail directory is the secondary directory, it affects performance less, so reducing the number of active users is of less value.

2.2.4 Should the Node be a World Search Node?

At a world search node, the Mail directory permanent database contains details not only of the users (subscribers) whose master copies are maintained at the local node, but also copies of subscriber entries from all the other nodes in the network. This means that a world search node needs more disk space than other nodes, in order to hold all the subscriber objects. It must also have sufficient CPU and memory resources to service both local requests and remote inquiry requests from nodes that are not world search nodes.

Digital recommends that Message Router gateways be installed on a world search node.

At a world search node, the Search mail directory (SMD) option searches all Mail directory entries on the network. It thus produces the same results as the Search other mail directories (SOM) option. These results are produced more quickly on a world search node than on a node that is not a world search node.

On a world search node, an inquiry to the Mail directory involves a search only on that node, whereas on other nodes, both the local node and a world search node may be involved. Therefore, lookups are faster on world search nodes. On the other hand, updates to the Mail directory have to be made on the local node and on all world search nodes, so updates are more costly on networks that contain several world search nodes.

On very large networks, update and inquiry rates may be very high, and it is important to establish the correct balance between having too many world search nodes, where inquiry times are relatively fast but updates are costly, and too few world search nodes, where inquiries are slower but updates less costly.

If you choose not to make your node a world search node, warn users that the Mail directory can produce noticeably different results at different times. As addresses are added to and removed from the cache, users may find that addresses that were found quickly before cannot be found at all, or that different addresses are found instead.

If you do choose to make your node a world search node, warn users to provide as much information as possible when searching the Mail directory, and that searching the Mail directory may take a long time. If, for instance, users press FIND at a TO or CC field, or fill in minimal information on the Mail directory search form, ALL-IN-1 will list all Directory Services subscribers, which may take hours!

Entries in the cache can get out of date, if, for example, a subscriber's personal details have changed. There are two ways to update the cache:

- Use the Message Router Directory Service command procedure DDS\$REFRESH.COM. This procedure updates any out-of-date cache entries with details from the master copy of the object. For more information about DDS\$REFRESH.COM, see the Message Router documentation.
- Use the Search other directories (SOM) option to display an index of subscriber entries and add the out-of-date entries to a message header, so that the up-to-date entries overwrite the out-of-date ones.

2.2.5 Are Any Users Already in the Mail Directory?

Your users may already have entries in the Mail directory, even though they have never used it from ALL-IN-1, or have never used ALL-IN-1 at all. This is because the Mail directory can contain entries for users of any mail system that uses Message Router or is connected to a Message Router gateway.

Each ALL-IN-1 user must not have more than one entry in the Mail directory, because otherwise the Message Router gateways may reject mail sent to and from those users. So, you should avoid creating multiple Mail directory entries when you create new ALL-IN-1 accounts, and when you convert existing ALL-IN-1 accounts if adopting the Mail directory for the first time.

It is possible to delete multiple entries, but it can be difficult to identify them, so it is advisable to avoid creating them.

For details of how to avoid multiple entries, see the chapter on setting up.

2.3 Planning Message Router Exception Reporting

Message Router provides exception reporting routines, which monitor the ALL-IN-1 Electronic Messaging subsystem for exceptions and error conditions. The routines send an exception report message to the account that you specify.

The exception report message contains the number of a Management Action Procedure (MAP), which describes a series of tasks that you must carry out to recover from the error or unusual event. MAPs relevant to ALL-IN-1 are identified by an A1 in the MAP reference, for example, MAP A1 8. The MAPs are described in the chapter on solving problems.

To run the exception reporting routines, Message Router must be installed on the same node or cluster as ALL-IN-1, and you must enable the routines by running the Message Router configuration procedure.

If exception reports are not enabled, detecting problems with ALL-IN-1 is done manually. This means monitoring ALL-IN-1 mail problems in the same way that the exception report command files do. Obviously, this is a more time-consuming way to manage mail.

On the following pages is an example of an ALL-IN-1 exception report. The first page of the report is a summary. The subsequent pages of the report can include more details of the errors.

```
From:    ORANGE::MBMANAGER      24-NOV-1989 10:40
To:      ORANGE::MBMANAGER
Subj:    Exception report from ORANGE
```

```
THIS MESSAGE REPORTS 1 EXCEPTION CONDITION ON YOUR NETWORK

REPORTED FROM NODE ORANGE - MR VERSION V3.1
ON 24-NOV-1989 AT 10:40
```

```
SUMMARY
-----
```

```
1:    OASEN - 18 messages waiting to be sent by ALL-IN-1
For further action, refer to MAP A1 6
Further details follow.
```

1: Further details

The queue contains 0 messages waiting to be fetched.
The queue contains 18 messages waiting to be sent.

End of report

The exception reporting routines can be run as a batch job or interactively. Run exception reporting interactively when you suspect that there may be an error on a particular node.

You cannot run exception reporting interactively until Message Router has been configured. You can run exception reporting interactively for the ALL-IN-1 Electronic Messaging subsystem before or after you have configured exception reporting. However, you must know the settings for the exception report alarm levels to determine if an error has occurred on a particular node.

2.3.1 Planning the Configuration

By default, one node in the network receives exception reports. This node is the network management node. At the network management node, the Message Router manager sets up the list of nodes in the network to be monitored, after consulting the user agent, gateway, and VMS managers in the network. Refer to the Message Router documentation for details.

Before you enable exception reporting for the ALL-IN-1 Electronic Messaging subsystem, you must decide which configuration parameter values are acceptable for your network. You can alter the alarm level for the:

- **Number of messages waiting to be sent.** If you receive an exception report telling you that the number of messages waiting in ALL-IN-1 is greater than the critical level, this indicates that mail is being delayed, or is not being sent from ALL-IN-1.
- **Number of fetched messages waiting to be delivered .** If you receive an exception report telling you that the number of messages waiting in ALL-IN-1 is greater than the critical level, this indicates that mail is being delayed, or is not being delivered by ALL-IN-1. This is not the number of messages in the ALL-IN-1 mailbox, but the number held by ALL-IN-1.
- **Critical number of free blocks available.** This is the number of free blocks available on the disk that holds the ALL-IN-1 Electronic Messaging work files used by the Sender and the Fetcher. The system logical name OA\$MTI_DATA points to the ALL-IN-1 data directory used by the Sender and Fetcher.

Table 2–1 shows the default settings for the configuration options.

Table 2–1 Default Configuration Parameters

Option	Default
Enable exception reporting	NO
Alarm level for the number of messages waiting to be sent	15
Alarm level for the number of fetched messages waiting to be delivered	3
Alarm level of free blocks	6000

2.4 Planning the Network Profile

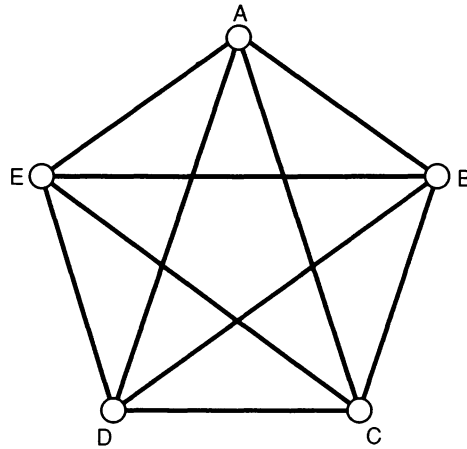
Before setting up the network profile, you need to find out who your users exchange messages with frequently. If mail is sent frequently to a user on another node you can make an entry for that user in the network profile. This saves having to type their mail address each time.

When you have found out who needs to be in the network profile, find out what nodes the remote ALL-IN-1 users are on. These are the nodes from which you want to get ALL-IN-1 account names and mail addresses for adding to the network profile. So, it is these nodes that you add to the multi-nodes file, as described in the chapter on setting up.

Next, you need to discuss with the ALL-IN-1 mail managers of the other nodes how to set up the network to keep the information in the network profile up to date. The mail network topology defines which nodes interrogate other nodes for the latest information about user names and mail addresses in the network profile.

For example, each node in the network can interrogate every other node in the network. See Figure 2–1.

Figure 2-1 All Nodes in Contact for Updating the Network Profile

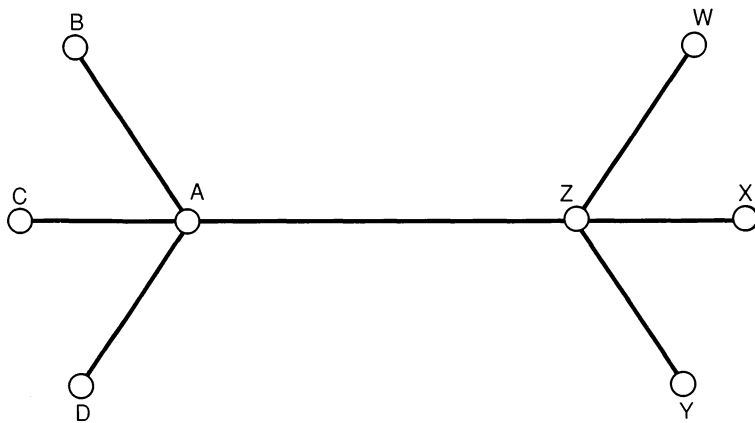


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In this example each node interrogates every other node. Node A interrogates nodes B, C, D, and E for the network profile master file information. B interrogates A, C, D, and E and so on.

Alternatively, certain nodes can be designated as control nodes. Control nodes interrogate nodes in their area and then exchange the directory information with other control nodes. See Figure 2-2.

Figure 2-2 Two Nodes in Control for Updating the Network Profile



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In this example, node A (a control node) interrogates nodes B, C, and D. Node Z (a control node) interrogates nodes W, X, and Y. Nodes A and Z exchange the information about the nodes in their areas.

Using the control nodes topology, updating the network profile on each node is quicker than when each node interrogates each other node.

The factors which affect how the topology is set up include:

- Long-distance links; for example, links across the Atlantic
- National groupings
- Links crossing different time zones

If you use the control nodes topology, then the ALL-IN-1 mail managers for each node must agree:

- Which nodes are control nodes
- How often the control nodes carry out interrogations of their own areas
- How often the control nodes obtain information about other areas

Digital recommends that initially the network topology does not use control nodes. Once you and the other managers have an indication of which nodes you require information from, and when, you can set up your network in the way that best suits your needs and resources.

Setting Up an ALL-IN-1 Mail System

3.1 Introduction

This chapter describes the tasks that may be required to set up ALL-IN-1 mail after ALL-IN-1, Message Router, and any gateways are installed. These tasks include:

- Setting up and populating the Mail directory
- Setting up the ALL-IN-1 mailbox
- Configuring Message Router exception reporting
- Setting up the network profile
- Specifying the time zone and time offset for your system
- Limiting the number of addressees for messages in networks that include versions of ALL-IN-1 prior to Version 2.3
- Defining the number of addressees to appear at the top of a message

3.1.1 State of the Mail System After Installation

When the installation procedure has finished, the ALL-IN-1 startup command procedure is run, and several post installation tasks are performed. All these are described in the *ALL-IN-1 Installation Guide*. After they have all been done, the ALL-IN-1 mail system is as follows:

- The ALL-IN-1 Postmaster account is available for the Sender and Fetcher batch jobs to use.
- The Sender and Fetcher batch jobs are started, to send and deliver mail to and from Message Router.

- The ALL-IN-1 logical names used for electronic messaging, such as OA\$MTI_DATA, and OA\$MTI_QUEUE are defined. Refer to Appendix A for a list of these logical names.
- The ALL-IN-1 mailbox is added to the mailbox directory in the Message Router Transfer Service, with the password you specified during installation. If Message Router is installed on a remote node, this is done as a post installation task on the remote node. The logical name OA\$MTI_MAILBX defines the name of the mailbox.
- If Message Router is installed on a remote node, the logical name OA\$MTI_MR_NODE points to the node where Message Router is installed.
- The password for the ALL-IN-1 mailbox is the same in ALL-IN-1 as it is in Message Router.
- If the person installing ALL-IN-1 elected to use the Mail directory:
 - Either the Mail directory or the ALL-IN-1 directory is set up as the primary directory.
 - A user agent entry is made in the Mail directory for ALL-IN-1. The name of the user agent is OA\$node\$ALLIN1, where node is the node name or cluster alias of the system on which you are running ALL-IN-1.
The password for the user agent entry is the one entered during installation.
 - A subscriber entry is made in the Mail directory for the ALL-IN-1 manager.
 - The name and password of the user agent object are entered into UAPASSWRD.DAT.

3.2 Populating the Mail Directory

During ALL-IN-1 installation the Mail directory is set up, but it is not populated with entries for your users. You need to add these entries after installation.

When you create ALL-IN-1 accounts, you can create entries in the Mail directory automatically, if you want to. However, you must avoid creating additional entries for any users who already have entries in the Mail directory. Instead, you must adopt their existing entries as described in the next section.

To find out which of your ALL-IN-1 users already have entries in the Mail directory:

- 1 Produce a list of the subscribers in the Mail directory, using the MAILbus Management Utility, MBMAN, as follows:


```
$ RUN SYS$SYSTEM:MBMAN
MBMAN> SHOW DDS SUBSCRIBER /NAME=* /OUTPUT=filename
MBMAN> EXIT
```

Where filename is the file to contain the list of subscribers

- 2 Log in to the ALL-IN-1 manager's ALL-IN-1 account, and produce an index of your ALL-IN-1 users using the Index (I) option from the Manage User Accounts menu. You can print the index, using the Print all selected (XP) option.
- 3 Compare the two lists. You may be able to automate the comparison, if the Mail directory entries contain a user-supplied unique identifier that is also in the ALL-IN-1 account details.

To create Mail directory entries and ALL-IN-1 accounts at the same time:

- 1 Log into the ALL-IN-1 manager's ALL-IN-1 account.
- 2 Create an ALL-IN-1 account for each user, as described in the *ALL-IN-1 Management Guide*. When you fill in the user's account details, set the Mail directory field (also known as the MDFLAG) to:
 - Y for those users who do not have Mail directory entries yet. The entries will automatically be created when the accounts are created.
 - N for those users who already have Mail directory entries. You then have to adopt their Mail directory entries as described in the section on adopting existing entries.

To create Mail directory entries for existing ALL-IN-1 users:

- For those users who already have entries in Mail directory, adopt the existing entries as described in the section on adopting existing entries.
- For those users who do not have entries in the Mail directory:
 - 1 Log into the ALL-IN-1 manager's ALL-IN-1 account.
 - 2 Set the MDFLAG to Y for these users, by entering:


```
<WRITE CHANGE PROFIL USER="user", MDFLAG="Y"
```
 - 3 Edit the script OA\$LIB:MAIL_DIR_CONVERT.SCP and comment out or remove the four lines of the first FOR statement, which set the MDFLAG for all users to Y. Place the edited version of the script in your ALL-IN-1 default directory.
 - 4 From ALL-IN-1 run the edited script by entering,


```
<DO MAIL_DIR_CONVERT.SCP
```

3.2.1 Adopting Existing Mail Directory Entries

To adopt existing Mail directory entries, so that all the necessary gateway information remains in the entries, do the following for each user:

- 1 If the user does not have an ALL-IN-1 account, create one with the Mail directory field set to N, so that another entry is not created in the Mail directory. See the *ALL-IN-1 Management Guide* for instructions on creating accounts.
- 2 If the existing entry in the Mail directory is owned by a remote node, log in to that node and move the entry to the node where the ALL-IN-1 account resides. To do this, use the MAILbus Management Utility, MBMAN, as follows:

```
$ RUN SYSS$SYSTEM:MBMAN
MBMAN> MOVE DDS SUBSCRIBER node /qualifiers
```

where:

- node is the node where the ALL-IN-1 account resides
- qualifiers identify the subscriber's entry, for example /SURNAME=Sellick

If you do not do this, you cannot modify the entry from ALL-IN-1.

- 3 From the local system, add the ALL-IN-1 proxy to the Mail directory entry, using the following MBMAN commands:

```
MBMAN> SELECT DDS SUBSCRIBER/qualifiers
MBMAN> MODIFY DDS SUBSCRIBER /PROXY=OA$node$ALLIN1
MBMAN> ADD DDS MODIFIED_OBJECT
```

where:

- OA\$node\$ALLIN1 is the name of the user agent object on the local node or cluster
 - node is the name of the node or cluster where ALL-IN-1 resides
 - qualifiers identify the subscriber's entry, for example /SURNAME=Sellick
- 4 Examine the subscriber's entry to find out which is the first MHSORADDRESS. If the user's ALL-IN-1 account is not the first MHSORADDRESS, swap it with the one that is first, using the commands:

```
MBMAN> SELECT DDS SUBSCRIBER/qualifiers
MBMAN> SHOW DDS SUBSCRIBER

MBMAN> MODIFY DDS SUBSCRIBER /MHSORADDRESS=(ORADDRNO=1, -
_MBMAN ADDRPART=a1_addr, MHSMAILBOX=a1_box, MHSUSERID=a1_user)
MBMAN> MODIFY DDS SUBSCRIBER /MHSORADDRESS=(ORADDRNO=n, -
_MBMAN ADDRPART=b_addr, MHSMAILBOX=b_box, MHSUSERID=b_user)
MBMAN> ADD DDS MODIFIED_OBJECT
```

MBMAN> EXIT

where:

- qualifiers identify the subscriber's entry, for example /SURNAME=Sellick
- a1_addr and b_addr are the addresses of the mailboxes for the user's ALL-IN-1 account and other account respectively
- a1_box and b_box are the names of the mailboxes for the user's ALL-IN-1 account and other account respectively
- a1_user and b_user are the names of the user's ALL-IN-1 account and other account respectively
- n is a number or the word NEW

5 Log in to the ALL-IN-1 manager's ALL-IN-1 account.

6 Find the user's entry in the Mail directory, using the Search mail directory (SMD) option. Then add the identifier of this Mail directory entry to the user's ALL-IN-1 profile entry, and set the MDFLAG, by entering:

```
<WRITE CHANGE PROFIL USER="user", DDSID=OA$SCROLL_ADDRESS:32:2
<WRITE CHANGE PROFIL USER="user", MDFLAG="Y"
```

Note that you can type a period (.) and press RETURN to recall the previous command line.

7 You can copy the ALL-IN-1 profile information into the existing Mail directory entry so that the fields that are common to both contain the same information. To do this, set the symbol #DDS_ACCOUNT to contain the ALL-IN-1 account name, and execute the script OA\$LIB:SUBSCRIBER_CHANGE.SCP. Use the following commands to do this:

```
<GET #DDS_ACCOUNT = "user"
<DO SUBSCRIBER_CHANGE
```

Alternatively, you can leave the fields to be modified automatically the next time the user's account profile is edited. This happens when the user uses the Set personal details (SPD) option from the User Setup menu, or when the manager or the administrator edits the account.

3.2.2 Deleting Multiple Entries

If you suspect that the Mail directory contains multiple entries for any user, you need to delete them, so that each user has only one. To do this:

1 Produce a list of the subscribers in the Mail directory, using the MAILbus Management Utility, MBMAN, as follows:

```
$ RUN SYS$SYSTEM:MBMAN
MBMAN> SHOW DDS SUBSCRIBER /NAME=* /OUTPUT=filename
```

where filename is the file to contain the list of subscribers

- 2 Examine the list of subscribers to identify those with more than one entry.
- 3 For each user with multiple entries, list the contents of each entry to determine whether there are any differences between the entries, using the command:

```
MBMAN> SHOW DDS SUBSCRIBER /qualifiers /FULL /OUTPUT=filename
```

where qualifiers identify the subscriber's entry

- 4 If there are differences between the entries, modify the entry you want to keep so that it includes all the information from the other entry. Make sure that the entry you are keeping contains the name of the local ALL-IN-1 user agent object, which is OA\$node\$ALLIN1, where node is the local node or cluster.

```
MBMAN> SELECT DDS SUBSCRIBER /qualifiers
MBMAN> MODIFY DDS SUBSCRIBER /modifications
MBMAN> ADD DDS MODIFIED_OBJECT
```

where:

- qualifiers identify the entry that you want to keep, for example /SURNAME=Sellick
- modifications are one or more qualifiers and values for the entry you want to keep

If the user's ALL-IN-1 account is not the first MHSORADDRESS, swap it with the one that is first, using the commands:

```
MBMAN> MODIFY DDS SUBSCRIBER /MHSORADDRESS=(ORADDRNO=1,-
_MBMAN> ADDRPART=a1_addr, MHSMAILBOX=a1_box, MHSUSERID=a1_user )
MBMAN> MODIFY DDS SUBSCRIBER /MHSORADDRESS=(ORADDRNO=n,-
_MBMAN> ADDRPART=b_addr, MHSMAILBOX=b_box, MHSUSERID=b_user )
MBMAN> ADD DDS MODIFIED_OBJECT
```

where:

- a1_addr and b_addr are the addresses of the mailboxes for the user's ALL-IN-1 account and other account respectively
- a1_box and b_box are the names of the mailboxes for the user's ALL-IN-1 account and other account respectively
- a1_user and b_user are the names of the user's ALL-IN-1 account and other account respectively
- n is a number or the word NEW

- 5 Delete the entry that you do not want:

```
MBMAN> DELETE DDS SUBSCRIBER /qualifiers /FULL
MBMAN> EXIT
```

- 6 Log in to the ALL-IN-1 manager's ALL-IN-1 account.
- 7 Find the user's entry in the Mail directory, using the Search mail directory (SMD) option. Then add the identifier of this Mail directory entry to the user's ALL-IN-1 profile entry, and set the MDFLAG, by entering:

```
<WRITE CHANGE PROFIL USER="user", DDSID=OA$SCROLL_ADDRESS:32:2  
<WRITE CHANGE PROFIL USER="user", MDFLAG="Y"
```

Note that you can type a period (.) and press RETURN to recall the previous command line.

3.2.3 Authorizing Users to Send Mail To Non-Digital Systems

Before a user can send mail to non-Digital mail systems, some additional information must be added to the user's entry in the Mail directory. This information identifies the ALL-IN-1 user's address in terms used by the receiving mail system.

For example, to exchange mail with a PROFS user, the ALL-IN-1 user's entry must include a pseudo PROFS username and a pseudo PROFS location. This enables the PROFS user to address mail to the ALL-IN-1 user, and enables the Message Router/P gateway to send delivery and non-delivery notifications to the ALL-IN-1 user.

To authorize a user, log into the MBMANAGER account and add the appropriate address terms to the user's Mail directory entry, using the MAILbus Management Utility, MBMAN, as follows:

```
$ RUN SYSSYSTEM:MBMAN  
MBMAN> SELECT DDS SUBSCRIBER /qualifiers  
MBMAN> MODIFY DDS SUBSCRIBER /modifications  
MBMAN> ADD DDS MODIFIED_OBJECT  
MBMAN> EXIT
```

where:

- **qualifiers** identify the user's subscriber entry. For example, /SURNAME=Sellick.
- **modifications** are the qualifiers and values of the user's pseudo address in the receiving mail system. The manager of the relevant gateway can tell you what the values are.

The address terms for the various gateways are:

- **IBM PROFS**

/PRLOCATION= the pseudo PROFS location (or node, in Digital terminology) of the Message Router/P Gateway.

/PRUSERNAME= the name by which the Message Router/P Gateway identifies the user, such as the user's VMS account name.

- **IBM SNADS**

/SNLOCATION= the pseudo SNADS location (or node, in Digital terminology) of the Message Router/S Gateway.

/SNUSERNAME= the name by which the Message Router/S Gateway identifies the user, such as the user's VMS account name.

- **Telex**

/X121ADDRESS= which is the telex number of the Message Router Telex Gateway. If the gateway has several telex numbers, enter the number that is assigned to the user.

/TERMINALID= which is the answer back for the telex number. The answer back provides additional security, similar to that from a password, and your network may not require one.

- **X.400 Address**

The user's X.400 address is automatically added to the Mail directory and maintained using information from the user's ALL-IN-1 account details, and the message transfer agent (MTA) entry for the Message Router X.400 Gateway. The following parts of the address are held in the MTA entry:

- Country
- Administration domain
- Private domain

The user's subscriber entry holds the other parts of the address, which are the same as in the user's ALL-IN-1 account details:

- Surname
- Given name
- Initials
- Generation
- Organization
- Organizational unit

The organizational unit corresponds to the first organizational unit in the X.400 address, and corresponds to the Department field in the user's ALL-IN-1 account details

- Note that additional information is not needed for sending mail to ALL-IN-1 Mail for VMS or ALL-IN-1 Mail for MS-DOS. Neither is this information needed for mail using the Message Router VMSmail Gateway or the ULTRIX Mail Connection (UMC) gateway.

3.3 Changing the Mail Directory Setup After Installation

During ALL-IN-1 installation, you choose whether or not to use the Mail directory, and which directory to have as the primary directory. You can change this later if you want to. See the chapter on planning for help deciding.

3.3.1 Changing the Primary Directory

The value of the logical name `OA$DDS_PRIME` identifies which directory is the primary directory on your node. When the value is:

- 0, the ALL-IN-1 directory is the primary directory, and the Mail directory is not available at all.
- 1, the ALL-IN-1 directory is the primary directory, and is used for validating addresses entered on a message header. The Mail directory is available as the secondary directory, for users to look up names and addresses.
- 2, the Mail directory is the primary directory, and is used for validating addresses entered on a message header. The ALL-IN-1 directory is available as the secondary directory, for users to look up names and addresses.

To change the primary directory for your node, change the value of the logical name `OA$DDS_PRIME`. You need `SYSNAM` privilege to do this, or you can do it from the ALL-IN-1 manager's account. To change the value, enter:

```
$ DEFINE /SYSTEM /EXECUTIVE_MODE OA$DDS_PRIME value
```

To make this change permanent, redefine the logical in the startup file `OA$SITE_BUILD_SHARE:A1V24_SITE_START.COM`.

If you change `OA$DDS_PRIME` from zero to one or two, you need to follow the instructions described in the next section.

3.3.2 Adopting the Mail Directory After Installation

If you chose to not use the Mail directory when you first installed ALL-IN-1, you need to carry out several tasks if you want to adopt the Mail directory later.

Message Router must be installed on your node if you want to use the Mail directory on your node. If it is not, install and configure it, referring to the Message Router documentation as necessary.

To adopt the Mail directory after ALL-IN-1 installation:

- 1 Change the value of the logical name `OA$DDS_PRIME` from zero to one, so that the ALL-IN-1 directory is primary, by entering:

```
$ DEFINE /SYSTEM /EXECUTIVE_MODE OA$DDS_PRIME 1
```

You need SYSNAM privilege to do this, or you can do it from the ALL-IN-1 manager's account.

To make this change permanent, you must also redefine the logical name OA\$DDS_PRIME in the startup file OA\$SITE_BUILD_SHARE:A1V24_SITE_START.COM.

You can select the Mail directory as the primary directory, by changing the value of the logical name OA\$DDS_PRIME to two, but beware that this may reduce performance on your node. See the chapter on planning for a full explanation.

- 2 Relink ALL-IN-1. For details, see the *ALL-IN-1 Management Guide*.
- 3 Log in to the MBMANAGER account, and run the MAILbus Management Utility, MBMAN, with the command:

```
$ RUN SYS$SYSTEM:MBMAN
```

Create the user agent object that ALL-IN-1 will use to access the Mail directory, and add the object to the Mail directory:

```
MBMAN> BUILD DDS UA /NAME="uaname"/PASSWORD="password"  
MBMAN> ADD DDS BUILT_OBJECT/LOG
```

where:

- uaname is the name of the user agent object. The name is in the form OA\$node\$ALLIN1, where node is the node or cluster on which you are setting up the Mail directory.
 - password is the password that ALL-IN-1 will use to access the user agent object. This must not be more than eight characters long.
- 4 Create and add a subscriber entry to the Mail directory for the ALL-IN-1 manager, as follows:

```
MBMAN> BUILD DDS SUBSCRIBER /SURNAME="MANAGER"  
MBMAN> BUILD DDS SUBSCRIBER /PROXY="uaname"  
MBMAN> BUILD DDS SUBSCRIBER /SUBID="uaname"  
MBMAN> ADD DDS BUILT_OBJECT/LOG  
MBMAN> EXIT
```

where:

- MANAGER is the name of the ALL-IN-1 manager's ALL-IN-1 account, and must be entered as shown. Do not enter someone's own account name.
- uaname is the name of the user agent object that you specified in step 3.

- /PROXY="uname" grants the local ALL-IN-1 user agent proxy access to the manager's subscriber entry. This enables the ALL-IN-1 user agent to access and update the manager's subscriber entry on behalf of the manager. (ALL-IN-1 is granted proxy access to all subscriber entries when they are created.)
 - /SUBID="uname" identifies the ALL-IN-1 manager's subscriber entry to ALL-IN-1, since there can be many entries called Manager.
- 5** From the ALL-IN-1 manager's ALL-IN-1 account, write the name and password of user agent object to the ALL-IN-1 file OA\$DATA_SHARE:UAPASSWRD.DAT. Enter:

```
<GET #UA="uname"
<GET #PW="password"
<WRITE ADD UAPASSWRD UACOMMNAME=#UA, UAPASSWORD=#PW
```

where:

- uname is the name of the user agent object that you specified in step 3
 - password is the password that you specified in step 3
- 6** Create temporary symbols for the values needed by the script USERAGENT_POST.SCP, which you will run in the next step. Enter:

```
<GET #ORNAME="orgname"
<GET #LOCATION="location"
```

If area routing is in use for your system, enter:

```
<GET #AREA="area_code"
```

where:

- orgname is the name of your company or organization, this must not be more than 64 characters
- location is the location of your ALL-IN-1 users, this must not be more than 20 characters
- area_code is the area code for the area that includes your system.

To find out what the area code is, run the MAILbus configuration procedure and show the details of the Transfer Service. At the system prompt, enter:

```
$ @SYS$MANAGER:MB$CONFIG
MBC> SHOW TS
```

The configuration procedure displays details of the Transfer Service, including:

```

.
.
.
Transfer Service uses area routing
Area code: area_code
.
.
.

```

where `area_code` is the area code in use at your site.

7 From ALL-IN-1, run the script `USERAGENT_POST.SCP`:

```
<DO USERAGENT_POST.SCP
```

The script does the following:

- Updates the file `UAPASSWRD.DAT` (created in step 5) with the Mail directory identifier obtained from the user agent object in the Mail directory.
- Sets the Mail directory field in the ALL-IN-1 manager's account details to Y.
- Copies details from the ALL-IN-1 manager's account details into the manager's Mail directory subscriber entry, and copies the manager's Mail directory identifier from the subscriber entry into the manager's account.
- Updates the ALL-IN-1 user agent object in the Mail directory with the values you supplied for organization name and location.
- Creates a mail address that is used for all the Mail directory subscribers owned by the ALL-IN-1 on the local node or cluster. The mail address is the address displayed in the From: field of a message. The mail address comprises the name of the ALL-IN-1 mailbox (defined by the logical name `OA$MTI_MAILBX`), and the name of the node or cluster where Message Router is running (defined by the logical name `OA$PRIMARY_NODE`). If area routing is in use for your system, the mail address also includes the area code that you specified in step 6. The mail address is identified by the symbol `OA$DDS_AREA_ROUTE`.

The Mail directory is now ready for use, but you need to populate it with your ALL-IN-1 users. See the section on populating the Mail directory in this chapter.

3.4 Setting Up the ALL-IN-1 Mailbox

The default name for the ALL-IN-1 mailbox is A1, and the default owner is ALLIN1, which is the VMS account name of the Postmaster account. The ALL-IN-1 mailbox could appear in the Message Router Transfer Service as, for example:

```
A1,                               Owner=ALLIN1 Complete_Messages Ignore_Sender
Grant_Id Service_Messages
```

The owner and password of the ALL-IN-1 mailbox are held in the mailbox directory in the Message Router Transfer Service. The password is also held in ALL-IN-1, and must be the same as the one in the Transfer Service. For details of changing the mailbox password, see the chapter on managing ALL-IN-1 mail.

Before a process (for example, the ALL-IN-1 Fetcher) can access a mailbox, Message Router checks that access is allowed.

When Message Router and ALL-IN-1 are on the same node or cluster, access is allowed if:

- Either the username of the calling process matches the username of the owner of the mailbox.
- Or the password of the mailbox matches the password of the calling process if it has supplied one.

When Message Router is on a remote node, the calling process must supply a password, which must match the mailbox password. It does not matter whether the usernames match or not.

You can change the mailbox name after installation if, for example, you want several ALL-IN-1 mailboxes on the same node to be called, A1_RED, A1_BLUE, and A1_GREEN. To change the name of the mailbox:

- 1 Log in to the MBMANAGER account.
- 2 Find out the current name of the ALL-IN-1 mailbox. Enter:

```
$ SHOW LOGICAL OA$MTI_MAILBX
```

This command displays: "OA\$MTI_MAILBX" = "old_mailbox"
- 3 Modify the ALL-IN-1 mailbox entry, using the Transfer Service Management Utility, MRMAN. To do this enter:

```
$ RUN SYS$SYSTEM:MRMAN
MRM> DELETE old_mailbox

MRM> ADD new_mailbox /OWNER=owner /PASSWORD=password /SYSTEM

MRM> EXIT
```

where:

- `old_mailbox` is the old name for the mailbox that you found out in step 2
 - `new_mailbox` is the new name for the mailbox
 - `owner` and `password` are the owner and password of the new mailbox
- 4 Redefine the logical name `OA$MTI_MAILBX` in the ALL-IN-1 startup command procedure, `OA$SITE_BUILD_SHARE:A1V24_SITE_START.COM`, by adding the line:

```
$ DEFINE /SYSTEM /EXECUTIVE_MODE OA$MTI_MAILBX new_mailbox
```

3.4.1 Removing the Mailbox Password

Defining the ALL-IN-1 mailbox with a password can have security implications, because anyone who knows the password can access the mailbox and remove mail. The mail system is more secure if the mailbox is accessible from only the Postmaster account.

If you are concerned about the security implications, you can remove the password, but only if your system uses a local Message Router. The effects of removing the password are:

- 1 Connections to Message Router are made by the ALL-IN-1 Postmaster account. Message Router checks that the username of the calling process matches the username of the owner of the mailbox.
- 2 ALL-IN-1 users cannot send express mail.

When you remove the password, you specify the Postmaster's VMS account as the owner of the mailbox, so that the mailbox is accessible only to the Postmaster's VMS account.

To remove the password:

- 1 Log in to the MBMANAGER account.
- 2 Find out the name of the ALL-IN-1 mailbox. Enter:

```
$ SHOW LOGICAL OA$MTI_MAILBX
```

This command displays: `"OA$MTI_MAILBX" = "mailbox"`

- 3 Modify the ALL-IN-1 mailbox entry, using the Transfer Service Management Utility, MRMAN. To do this enter:

```
$ RUN SYS$SYSTEM:MRMAN
MRM> MODIFY mailbox /OWNER=owner /NOREMOTE_RESTRICTION-
_MRM> /NOPASSWORD
MRM> EXIT
```

where:

- mailbox is the name of the ALL-IN-1 mailbox that you found out in step 2
- owner is the name of the Postmaster's VMS account. The default name is ALLIN1

3.5 Enabling Exception Reporting to Run as a Batch Job

If you want exception reporting for the ALL-IN-1 Electronic Messaging subsystem, you must configure exception reporting on every node or cluster where you want to use exception reporting routines.

You configure these routines using the MAILbus configuration procedure, MB\$CONFIG. This procedure asks questions about your node and uses your answers to configure exception reporting for ALL-IN-1.

3.5.1 Preparing to Run the Configuration Procedure

If possible, use a hardcopy terminal to keep a record of the configuration. If you do not have a hardcopy terminal, you can make a record of the configuration using the following command:

```
$ SET HOST 0/LOG=filename
```

where filename is the name of the file where you want the record of the configuration to be stored.

Before you can run the configuration procedure, you have to stop all the MAILbus components on your node or cluster.

To stop all the MAILbus components on your node or cluster, except the Management Service, log in to the SYSTEM account and enter:

```
$ @SYS$MANAGER:MB$CONTROL STOP=(ER, ..., TS, DDS)
```

The ellipsis (...) in the above command line shows where you enter initials representing any gateways that are running on the node or cluster, and which you must therefore stop. Enter the following initials, as necessary:

- MRG to stop the Message Router VMSmail Gateway
- MRS to stop the Message Router/S Gateway
- MRP to stop the Message Router/P Gateway
- MRX to stop the Message Router X.400 Gateway
- MRT to stop the Message Router TELEX Gateway

MB\$CONTROL displays:

Working, please wait

Beginning STOP operation for ER.

Exception reporting shutdown procedure has completed.

.
.
.

Beginning STOP operation for TS.

This is MRMAN V3.1

Transfer Service shutdown procedure has completed.

Beginning STOP operation for DDS.

MBMAN V3.1

DDS shutdown procedure has completed.

3.5.2 Running the Configuration Procedure

To run the configuration procedure, log in to the SYSTEM account and enter:

```
$ @SYS$MANAGER:MB$CONFIG
```

MB\$CONFIG displays a table of the identifiers of MAILbus components installed on the node. The type of Message Router configuration, default or customized, is shown in the table. For example:

MAILbus CONFIGURATION PROCEDURE

Products currently defined in DEFAULT configuration database
on 24-NOV-1989 15:13:29

A1	: ALL-IN-1
MR	: Message Router
MS	: Management Service
TS	: Transfer Service
DDS	: Directory Service
ER	: Exception Reporting

MBC>

Note *Message Router takes a few minutes to display the table of all the MAILbus components on your system.*

Use the SET A1 command to configure exception reporting for the ALL-IN-1 Electronic Messaging subsystem:

1 At the configuration prompt, enter:

```
MBC> SET A1
```

2 MB\$CONFIG displays:

* Do you want to enable ALL-IN-1 exception reporting [N] ?

Enter YES to enable exception reporting.

3 MB\$CONFIG displays:

* What is the alarm level for the number of messages waiting to be sent by ALL-IN-1 [15] ?

Enter the alarm level for the number of messages waiting to be sent.

Otherwise, press RETURN to accept the default answer of 15.

4 MB\$CONFIG displays:

* What is the alarm level for the number of messages waiting to be fetched by ALL-IN-1 [3] ?

Enter the alarm level for the number of messages waiting to be fetched.

Otherwise, press RETURN to accept the default answer of 3.

5 MB\$CONFIG displays:

* What alarm level of free blocks do you want to set for ALL-IN-1 [6000] ?

Enter the alarm level for the number of free blocks available. Otherwise, press RETURN to accept the default answer of 6000.

6 Enable exception reporting for the ALL-IN-1 Electronic Messaging subsystem. Enter:

MBC> ENABLE A1

MB\$CONFIG displays:

%MB-I-MBC\$ENABLE, Enabling messaging process

7 Build the working files that the exception reporting routines use, using the RECOVER command. To do this, type:

MBC> RECOVER A1

MB\$CONFIG displays:

%MB-I-MBC\$RECOVER, Recovering configuration database

%MB-I-RECPHASE, Beginning recovery phase for A1 ...

%MB-I-UPDXRPTENBF, Updating MB Exception Reporting flag for ...

%MB-I-MBC\$REPLETE, Configuration database recovery complete

8 To exit from the configuration procedure, enter:

MBC> EXIT

3.5.3 Restarting Your MAILbus System

Restart all the MAILbus components you stopped on your node or cluster. To do this, enter the following on all nodes in your cluster:

```
$ @SYS$MANAGER:MB$CONTROL START=(DDS,TS,...,ER)
```

MB\$CONFIG displays startup messages; for example:

```
Working, please wait .....
```

```
Beginning START operation for DDS.  
MBMAN V3.1
```

```
%MB-I-SUBDDSTIDY, submitting DDS$TIDY (DDS periodic housekeeping).
```

```
DDS$TIDY Requested operations:
```

```
SUBMIT
```

```
DDS$TIDY already queued - not re-submitted.
```

```
%MB-I-SUBDEFER, submitting DDS$DEFER (DDS deferred object ...
```

```
DDS$DEFER Requested operations:
```

```
SUBMIT
```

```
DDS$DEFER already queued - not re-submitted.
```

```
%MB-I-SUBREFRESH, submitting DDS$REFRESH (DDS cache refresh job).
```

```
DDS$REFRESH Requested operations:
```

```
SUBMIT
```

```
DDS$REFRESH already queued - not re-submitted.
```

```
DDS startup procedure has completed.
```

```
Beginning START operation for TS.
```

```
%RUN-S-PROC_ID, identification of created process is 00001814
```

```
%RUN-S-PROC_ID, identification of created process is 00001C36
```

```
MR$TIDY Requested operations:
```

```
SUBMIT
```

```
MR$TIDY already queued - not re-submitted.
```

```
Transfer Service startup has completed.
```

```
.  
.
.
```

```
Beginning START operation for ER.
```

```
%MB-I-INITMBAT, initializing MR$BATCH_ORANGE batch queue.
```


%MB-I-SUBJOBS - submitting messaging control jobs.

Submitting MB\$A1 on MR\$BATCH_ORANGE queue.....

Job MB\$A1 (queue MR\$BATCH_ORANGE, entry 1811) holding until
28-FEB-1988 16:08

Exception Reporting startup procedure has completed.

You have now configured exception reporting for the ALL-IN-1 Electronic
Messaging subsystem.

3.6 Setting Up the Network Profile

3.6.1 Defining the Network Topology for the Network Profile

You must make an entry in the multi-nodes file, OA\$DATA_SHARE:
MNODES.DAT, for each node from which your system wants to obtain network
profile information.

You create and maintain entries in the multi-nodes file using the Identify
sources for mail addresses (ISM) option on the ALL-IN-1 Manage Messaging
menu.

To make an entry for each node that you want to include in the multi-nodes
file:

- 1 Enter ISM on the Manage Messaging menu.
- 2 Enter C to create an entry, or E to edit an existing entry.
- 3 Complete the fields on the multi-node form as follows:

- Source Node

Enter the name of the remote node from which you want to obtain
network profile information.

If you are using the control nodes topology, enter the name of the
control node for the owning node specified in the Owning Node field.

If you are not using the control nodes topology, make the same entry in
both fields.

- Owning Node

Enter the name of the remote node about which you want to obtain
information.

If you want to get information from a VAXcluster, enter the value of its
system logical name OA\$PRIMARY_NODE. The value of this logical is
the cluster alias, if cluster aliasing is enabled. If cluster aliasing is not
enabled, the value is the node on which Message Router is installed,

- Last Update

ALL-IN-1 completes this field. The field contains the date and time when network profile information was last copied from this node using the Update Mail Addresses (UA) housekeeping procedure. When you initially create an entry, leave this field set to zero. For information about the UA procedure, see the *ALL-IN-1 Management Guide*.

- **Update Count**

ALL-IN-1 completes this field. It contains the total number of network profile entries updated on your node. When you initially create an entry, leave this field set to zero.

This field provides you with the information to assess the network traffic involved in keeping the network profile up to date.

- **Fetch Update**

Enter **Y** if you want network information from the source node when the network profile is next updated. Enter **N** if you do not want the source node interrogated when the network profile is next updated. For example, your multi-nodes file may specify a large number of nodes. You might need to exclude some of the nodes when the Update Mail Addresses (UA) procedure is run, so that the procedure interrogates only a few nodes at a time.

- **Access Time Range From: To:**

Enter the time range for interrogating the source node for the latest address information. You should specify times between which:

- The network links to the source node are not busy; for example, at evenings or weekends.
- The node is always available. Check with the managers of each source node to agree on a time when the node will always be available.

When the Update Mail Addresses (UA) procedure is run, the update is done for only those nodes whose access time ranges include the time when the procedure is run.

If access ranges for the nodes do not coincide, the UA procedure must be scheduled to run at another time when the nodes are accessible.

Make an entry in the multi-nodes file for each of the nodes from which you want to obtain network profile entries.

When a new node is added to your network, remember to make an entry in the multi-nodes file if you want the users on the node to be included in your network profile.

3.6.2 Entering ALL-IN-1 Users into the Network Profile

After entering all required nodes in the multi-nodes file, you have to update the network profile to include the names and mail addresses of users on other nodes. This is done when the Update Mail Addresses (UA) housekeeping procedure next runs. This procedure is scheduled by the ALL-IN-1 manager and is described in the *ALL-IN-1 Management Guide*.

The UA procedure examines all the nodes listed in your multi-nodes file and updates your network profile with new information on users who have the Mnode field in their account details set. (See the *ALL-IN-1 Management Guide* for how to set this field by editing users' account details.)

Similarly, when the procedure runs on nodes whose multi-nodes file includes your node, the latest information about users on your node is collected, and entered in to their network profile. Only information about users who have the Mnode field set is collected, so make sure that all those users who need to be in other network profiles have this field set.

If your system is running in a VAXcluster, each user has as many valid mail addresses as there are nodes in the cluster. When ALL-IN-1 is installed, the logical name OA\$PRIMARY_NODE is set to the name of the node on which Message Router is installed, or to the cluster alias if cluster aliasing is enabled. This node name or cluster alias is used as the addressing node name for each user in the cluster. Thus, the address entered in the network profile is in the form:

```
username @A1_mailbox @OA$PRIMARY_NODE
```

This avoids having more than one entry for each user in the network profile.

To enter non-ALL-IN-1 users into the network profile, see the chapter on managing ALL-IN-1 mail.

3.7 Specifying the Time Zone and Time Offset

You must specify the time zone and time offset after ALL-IN-1 is installed, and also if the time changes between summer and winter; for example, when daylight-saving time is in operation.

Use the Change time zone and time offset (CTZ) option on the Manage Messaging menu to specify the time zone in which your system is located, and the time offset between the time on your system and Greenwich Mean Time (GMT). For details of how to use this option, see the chapter on managing an ALL-IN-1 mail system.

3.8 Limiting the Number of Addressees on Messages

If parts of your network are still running ALL-IN-1 Version 2.2 or earlier, you must limit the number of addressees allowed on messages, because these versions of ALL-IN-1 can handle a limited number only.

To limit the number of addressees, you define the logical name `OA$MTI_LIMIT_LISTS`, by adding the following line to your startup command procedure, `OA$SITE_BUILD_SHARE:A1V24_SITE_START.COM`.

```
$ DEFINE /SYSTEM /EXECUTIVE_MODE OA$MTI_LIMIT_LISTS 1
```

When `OA$MTI_LIMIT_LISTS` is set to one, the default maximum number of addressees that can be used on a mail message is 550. It may be possible to increase this value. To find out whether this is possible, use the following equation to calculate the maximum allowable number of addressees:

$$\text{Maximum addressees} = \frac{64400}{54 + \text{username} + \text{mail} + \text{node} + \text{route}}$$

where:

- username is the maximum length of an ALL-IN-1 username
- mail is the maximum length of a mailbox name on your network
- node is the maximum length of a node name on your network
- route is the maximum length of an area route name on your network, if area routing is in use on your network

Round the result of this equation down to the nearest integer.

If you want your system to use this value, do the following:

- 1 Determine whether the file `SITELINK24.COM` is in one of your `OA$BUILD` directories. If not, create it in `OA$SITE_BUILD_SHARE`.
- 2 Write the following line into `SITELINK24.COM`:

```
$ O "SYMBOL=OA$GK_CAB_LIM_ADDRESSEES, n"
```

where `n` is the maximum number of addressees that you calculated.
- 3 Relink ALL-IN-1.

Once you have done this, your system uses the maximum number of addressees that you specified, as long as `OA$MTI_LIMIT_LISTS` is set to one. If any of the parameters in the equation increase, you must recalculate the maximum number of addressees, modify `SITELINK24.COM` accordingly, and relink ALL-IN-1. If you do not do this, those parts of your network running ALL-IN-1 Version 2.2 or earlier may have problems receiving mail from your node.

When all the nodes in your network have upgraded to ALL-IN-1 Version 2.3 or later, you can remove the limit on the number of addressees, by removing the line in OA\$SITE_BUILD_SHARE:A1V24_SITE_START.COM. (You do not need to set this logical to zero, since the ALL-IN-1 startup command procedure does this.)

3.9 Defining the Format for Lists of Addressees

You can set the logical name OA\$MAIL_NUM_ADDRESSES to specify the number of addressees that appear at the top of a message, when users print or read the message. The default value is five addressees at the top of the message.

If the number of addressees on a message is equal to or less than the number specified by OA\$MAIL_NUM_ADDRESSES, the message is printed and displayed using the template file OA\$BLP:MAILMEMO1.BLP. This gives a standard heading with addressees listed at the top of the message. Any attachments are printed and displayed using the OA\$BLP:MAILATT1.BLP template.

If the number of addressees is greater than the number specified by OA\$MAIL_NUM_ADDRESSES, the message is printed and displayed using the template file OA\$BLP:MAILMEMO2.BLP. This gives a standard heading at the top of the message, with addressees listed at the bottom of the message and before the attachments. Any attachments are printed and displayed using the OA\$BLP:MAILATT.BLP template.

Addressing, Sending, and Delivering Messages

4.1 Introduction

This chapter explains the part that ALL-IN-1 plays in sending messages, as opposed to Message Router's part, which is described in the Message Router documentation. The chapter explains:

- Which directories ALL-IN-1 searches when the user enters a recipient's name on a message header
- How to address people who are not in one the directories, whether they are ALL-IN-1 users or not
- What the Sender and Fetcher do to deliver a message

4.1.1 Structure of Messages

ALL-IN-1 sends all messages, except those to ALL-IN-1 users on the same system, through the Message Router Transfer Service. (Any message with an address which includes an at sign (@) or the word AT goes through the Transfer Service.)

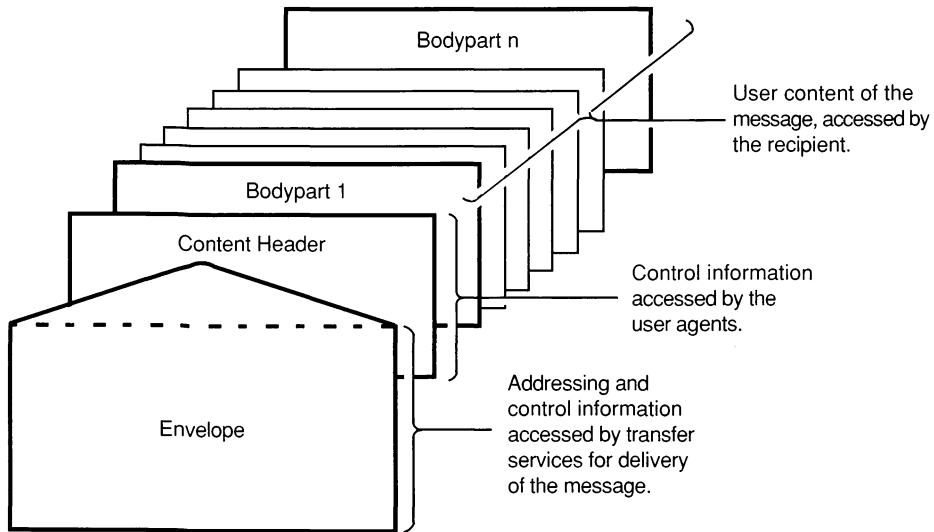
Note that messages from ALL-IN-1 to other messaging systems are sent through one of the Message Router gateways. For example messages to VMSmail go through the Message Router VMSmail Gateway.

A Message Router message consists of an envelope file and a contents file.

ALL-IN-1 constructs the envelope. The information which forms the envelope is used by the Message Router Transfer Service to direct the message from its originating node to its destination. The envelope is the only part of the message that the Transfer Service reads.

The contents of the message consists of two parts: the header and the body. The header contains information that is used by ALL-IN-1 as control information. The body is the actual text of the message. See Figure 4-1.

Figure 4-1 Structure of a Message



RE_EN02718R_89

ALL-IN-1 puts all parts of the message into NBS files. NBS files are files that are encoded using the encoding method described by the message format specification produced by the United States National Bureau of Standards.

4.2 Addressing Messages

The form of address that users enter depends on whether the addressee is registered in one of the directories that are in use on your node.

If the addressee is registered in one of the directories, the ALL-IN-1 user can address the message simply by entering the name of the addressee, as specified in the directory.

- If the ALL-IN-1 directory is primary, the user enters the addressee's account name, such as EDDISONC for Charles EDDISON. If users enter the addressee's real name, ALL-IN-1 assumes that the last word entered is the account name and looks for that in the user profile and network profile.

To find an addressee's account name from just the start of the name, the user can enter the start of the name and press FIND. This displays a list of addressees from which the user can select the one wanted. Note, that if the user presses RETURN after entering the start of a name, a list of names is displayed only if there is no one whose whole name matches the start of name entered.

- If the Mail directory is primary, the user enters the addressee's full name, not the ALL-IN-1 account name.

If the user enters a name consisting of one word, ALL-IN-1 searches for a surname to match that word, and enters the address of the first match it finds.

Note *There may be more than one address that matches the name entered. If the user knows that the first matching address is not the one wanted, he or she can use the Search mail directory (SMD) option to display an index of all the addresses that match and select the correct one.*

If the user enters more than one word, ALL-IN-1 searches different combinations of surnames, given names and initials to match the words.

If the addressee is not registered in one of the directories, the user must enter the electronic mail address, or a nickname representing that address.

4.2.1 Where ALL-IN-1 Searches for an Address

To send a message, a user enters all or part of a mail address in the TO or CC fields of a message header. ALL-IN-1 accepts whatever the user enters as an address, and searches for that address in the order shown below. When it finds an address that matches the one the user entered, it enters that address in the message header.

Note that the search does not start with the primary directory, but with nicknames and other forms of special addressing.

- 1 Nicknames: if the address is a nickname (that is, if it matches an entry in the user's NICKNAMES.DAT file), ALL-IN-1 searches against the address or real name that corresponds to the nickname.
- 2 Distribution lists: if the address begins with the @ sign or ends with a colon, ALL-IN-1 searches for a distribution list with a name that matches the address. (A user's own distribution lists are held in the user's file cabinet. Names of system distribution lists are held in the ALL-IN-1 directory, PROFILE.DAT.)
- 3 Subscribers: if the address consists of the word SUBSCRIBERS:, ALL-IN-1 processes it as a special distribution list containing the addresses of all the ALL-IN-1 users on the local node. The colon after SUBSCRIBERS is optional.

- 4 Self-addressing: if the address consists of the word I or the word ME, ALL-IN-1 enters the name of the user sending the message as the addressee.
- 5 Paper mail: if the address consists of the words HARD-COPY or PAPER MAIL, ALL-IN-1 prints a copy of the message on the user's default printer.
- 6 Primary directory: ALL-IN-1 searches the primary directory, as identified by the logical name OA\$DDS_PRIME.

If the ALL-IN-1 directory is primary, or if the Mail directory is not in use, ALL-IN-1 searches the ALL-IN-1 directory, which is contained in the file PROFILE.DAT. This file contains the account names of all local ALL-IN-1 users. If the addressee is a local ALL-IN-1 user, ALL-IN-1 sends the message to that user as local mail.

If the Mail directory is primary, ALL-IN-1 searches the local part of the Mail directory, which comprises the permanent database and cache. When ALL-IN-1 is running on a world search node, ALL-IN-1 searches all the Mail directory, since all of it is held locally.
- 7 Network profile: if the address matches a username in the Network profile (that is, the file NETWORK.DAT), ALL-IN-1 extracts the Network profile address. If ALL-IN-1 finds a remote address in the Network profile, and the full name of the addressee is available, it enters the name of the addressee (instead of the usual words Remote Addressee) in the message header.
- 8 Remote addressees: if the address contains the @ sign or the word AT, ALL-IN-1 interprets it as a remote address.
- 9 Partial address: if the search up to this point has not found an exact match for the address, ALL-IN-1 treats the address entered as the first part of an address, and searches the primary directory and network profile again. If ALL-IN-1 finds several partial matches, it lists them for the user to choose from. For instance, if the user enters the name EDDISON and EDDISON is not found, ALL-IN-1 lists names such as EDDISONC and EDDISONL.

4.2.2 Addressing Users Who Are Not in One of the Directories

Users can address messages to people even if they are not registered in the ALL-IN-1 directory, the Mail directory, or the network profile. To do this, users must enter the full electronic mail address of that addressee on the message header, unless they have set up a nickname for that addressee.

Messages to most non-ALL-IN-1 mail systems need to pass through the appropriate gateway. For example, messages to VMSmail need to pass through the Message Router VMSmail Gateway. All ALL-IN-1 users can send messages through the Message Router VMSmail Gateway and the ULTRIX Mail Connection (UMC) gateway. However, to send messages through the other

gateways, ALL-IN-1 users must be authorized to use those gateways in the Mail directory. See the chapter on setting up ALL-IN-1 mail for details.

The exact format of the electronic mail address depends on the type of mail system that the recipient uses. It also depends on how the Message Router Transfer Service database is set up. However all addresses follow this general format:

```
recipient_information @mailbox_name @mailbox_node @area_code
```

where:

- `recipient_information` is the information that identifies the recipient to the receiving mail system. It is the address used within the recipient's own mail system, and so the recipient can tell the ALL-IN-1 user what it is.

For most mail systems, the `recipient_information` is the name of the recipient's account, and can include the name of the node where that account is. On some mail systems, the `recipient_information` is the recipient's full name and includes other identifying information such as a telex number or the department where the recipient works. See Table 4-1 for details.

- `mailbox_name` is the name of the Message Router mailbox that collects mail for the mail system that the recipient uses, for example, MRGATE or A1. Note that A1, MRGATE and the mailbox names given in Table 4-1 are default names. The managers of the relevant gateway or mail system can tell you the exact mailbox name.
- `mailbox_node` is the node where the mailbox is. Users do not have to specify the mailbox node, if it is on the same node as their ALL-IN-1 accounts. Depending on how the Transfer Service database is set up, users may have to specify more than one node to reach the mailbox. The managers of the relevant gateway or mail system can tell you the name of the `mailbox_node` or nodes.
- `area_code` is the code for the area where the `mailbox_node` is, if the Transfer Service database is set up to use area routing. The managers of the relevant gateway or mail system can tell you the exact `area_code`.

Message Router reads the address from right to left. For example, a message addressed to:

```
EDDISONC @A1 @OXFORD
```

is sent first to the node OXFORD, then to the mailbox called A1 on node OXFORD, then to the ALL-IN-1 account EDDISONC.

Table 4–1 shows the addresses to use to send messages people who are not in the directories. For full details of the addresses, see the documentation for the appropriate gateway or mail system. For example, see the Message Router/P Gateway documentation for details of IBM PROFS addresses.

Note *The addresses must be entered on one line.*

Table 4–1 Addresses for Users Not in a Directory

Mail System	Electronic Mail Address
ALL-IN-1	username @A1 @a1_node or username @A1 @a1_node @area
VMSmail	username @MRGATE @mrgate_node or username @user_node @MRGATE or username @user_node @MRGATE @mrgate_node
IBM PROFS	PR_U=username @PR_L=user_node @MRP @mrp_node
IBM SNADS	SN_U=username @SN_L=user_node @MRS @mrs_node
Telex	recipient name @answerback @telex_number @TELEX @telex_node
ULTRIX	username @user_node @UMC @umc_node
ALL-IN-1 Mail for VMS and for MS-DOS	username @X4 @x4_node
X.400-compliant	recipient name @3=private_domain @4=unit_name @MRX @mrx_node

username	is the name of the recipient's account
user_node	is the node where the recipient's account is
A1, MRGATE	and so on, are the names of the mailboxes
a1_node, mrg_node	and so on, are the nodes where the gateways are
recipient name	is the recipient's name, such as Joe Brown

Note the additional points for addresses to the following mail systems:

- **ALL-IN-1 address.** Use the second ALL-IN-1 address format shown in Table 4–1 when area routing is in use at the destination. Area routing divides the network into a number of logical areas, each containing a group of nodes, and each identified by an area code. For details, see the Message Router documentation.
- **ALL-IN-1 STARTER address.** Use the same address as you use for ALL-IN-1.

- **VMSmail address.** Use the first VMSmail address format shown in Table 4–1 preferably, so that the message stays in Message Router for as long as possible, and takes advantage of the store-and-forward capability in Message Router. Use the second address format if the Message Router VMSmail Gateway is not installed on the recipient’s node, and use the third address format if the gateway is not on either of your nodes. See the *ALL-IN-1 User’s Reference* for more explanation.
- **ULTRIX address.** The text of messages to users of ULTRIX mail systems must not contain any multinational characters, such as accented letters or currency symbols.
- **ALL-IN-1 Mail for VMS and for MS-DOS.** These are two other Digital mail systems to which you can send messages.
- **X.400 address.** The address in Table 4–1 is just one example of an X.400 address, since other identifying information can be included in the address. Users can also enter the address by filling the X.400 Address form, which they can display by entering X400 on the message header.

Some fields on the X.400 Address form have to be completed in a set order. Note that the order is the opposite from that defined by the X.400 standards. In particular, the fields for the addressee’s organizational unit must be completed in ascending order of importance. For detailed information about using an X.400 address, see the Message Router X.400 Gateway documentation.

The leading underscore method of addressing used in ALL-IN-1 Version 1 still works but, for future compatibility, it is recommended that users address messages to go through the Message Router VMSmail Gateway. In addition, note that the leading underscore method works when the file SPECIAL.COM is installed as supplied, but may work differently if you have changed it so that it does not use VMSmail.

4.3 How the Sender Sends Messages

The Sender batch job (OAMTISEND.COM) is on the queue defined by the logical name OA\$MTI_QUEUE, with the username of the Postmaster’s VMS account (for example, ALLIN1).

The Sender process name is A1 Sender.

The delivery method for a message depends on:

- The class of mail that the user sending the message specifies.
Users can specify one of three priorities for a mail message:
 - Express
 - First class

- Second class

The default class is first class.

- Whether the message is addressed to a local ALL-IN-1 user, or to a user accessed through Message Router (for example, a VMSmail user on the same node or an ALL-IN-1 user on a remote node).

If you know that Message Router is going to be temporarily unavailable, you should use the Hold Sender (HS) option on the Manage Messaging menu to put the Sender job on hold (see the chapter on managing ALL-IN-1 mail). Putting the Sender on hold stops the Sender attempting to connect to Message Router and failing.

4.3.1 Sending Express Class Messages

When a user sends an express class message, ALL-IN-1 delivers it as follows:

- Messages to local ALL-IN-1 addressees, that is, ALL-IN-1 users on the same node or cluster, are delivered immediately. The user's process invokes the Sender directly.
- For messages to remote addressees and non-ALL-IN-1 users, the Sender constructs a message in the format required by the Message Router Transfer Service. The Sender is then invoked immediately to send the mail to the Transfer Service.

ALL-IN-1 identifies itself to the Transfer Service (using DECnet object 22).

The Transfer Service then copies the envelope and message files, and begins the transfer to the other systems in the network.

4.3.2 Sending First and Second Class Messages

First class local messages are sent in the same way as express class messages.

First class remote messages and all second class messages are queued in the file OA\$DATA:PENDING.DAT. When the Sender batch job is next submitted, it sends all the messages to the Message Router Transfer Service.

The Sender batch job checks that neither the Sender nor the Fetcher is already running when it is resubmitted, because only one process at a time can access the Postmaster's File Cabinet. If either is already running, the Sender batch job exits and resubmits itself to run later.

If necessary, you can create new accounts for the Sender and Fetcher to avoid delays in mail delivery. For details, see the chapter on managing ALL-IN-1 mail.

4.3.3 If the Message Is Not Sent

If the Sender fails to send the message, ALL-IN-1 requeues the message in PENDING.DAT, with its retry count increased by one.

If the Sender continues to fail to send the message, and the retry count is reached, the message is deleted from the queue. The ALL-IN-1 Postmaster then sends a non-delivery message to:

- The user who sent the original message informing him or her that:
 - ALL-IN-1 was unable to send the message off-node
 - Any local deliveries have been made
- To the ALL-IN-1 manager informing him or her that:
 - ALL-IN-1 was unable to send the message to the Message Router Transfer Service.
 - The message has been removed from the Sender queue. The message to the ALL-IN-1 manager specifies the NBS files in OA\$MTI_DATA that contain the envelope and the message.

If the Sender fails to send the message because the Sender cannot link to the Transfer Service, the message is requeued with a retry count of zero. The Sender will be unable to link to the Transfer Service if, for example, the Transfer Service shuts down while the Sender is running.

4.4 Sending Messages Written with WPS-PLUS

Messages written with WPS-PLUS can be sent to any mail system, even non-Digital mail systems. However, the messages have to be translated if they are sent to mail systems that do not recognise WPS-PLUS. This translation maintains the text of the message, but loses or translates some formatting and WPS-PLUS characteristics. The following characteristics are affected:

- Bolding and underlining. These are lost when the WPS-PLUS message is translated into ASCII.
- Mathematical, Greek, and multinational characters (such as accented letters and currency symbols). These are converted to their nearest ASCII equivalent.
- Footnotes. These appear in the place where they were written instead of at the bottom of the page or the end of the document. The recipients may see the word, Footnote, just before the footnote text.

If the receiving mail system is:

- ALL-IN-1 Version 2.0 or later, WPS-PLUS messages are sent and received in WPS-PLUS. The receiving ALL-IN-1 system can format, display, and print the messages, even if WPS-PLUS is not installed on that system. Footnotes in the messages are restricted to those available in Version 2.2.
- VMSmail, the Message Router VMSmail Gateway translates WPS-PLUS messages into ASCII format.
- ULTRIX mail systems, the ULTRIX Mail Connection gateway (UMC) translates WPS-PLUS messages into ASCII format.
- ALL-IN-1 Mail for VMS or for MS-DOS, the receiving system converts the WPS-PLUS messages into ASCII, if the recipient's profile is set to convert them. Your users may need to explain this to their recipients.
- Non-Digital mail systems that do not recognize WPS-PLUS encoding, WPS-PLUS messages are not translated. To translate the messages into ASCII, you must set the logical name OA\$MTI_TRNS to one.

This setting causes all WPS-PLUS messages to remote systems to be translated into ASCII, even if the remote systems can handle WPS-PLUS.

Translation into ASCII affects messages, replies, and cover notes, but not attachments, forwarded messages, and documents created and sent from the Word and Document Processing menu.

If OA\$MTI_TRNS is set to one, users can prevent WPS-PLUS documents from being translated by creating and sending them from the Word and Document Processing menu.

If OA\$MTI_TRNS is zero, users must use the EDT editor to write messages destined for mail systems that do not recognize WPS-PLUS encoding.

The setting of OA\$MTI_TRNS does not affect local message delivery.

4.5 How the Fetcher Fetches Messages

The Fetcher batch job (OAMTIMAIL.COM) is on the queue defined by the logical name OA\$MTI_QUEUE, with the username of the Postmaster's VMS account (default, ALLIN1).

The Fetcher process name is A1 Fetcher.

When the Message Router Transfer Service receives a message addressed to ALL-IN-1 users on the local node, the message is queued on the ALL-IN-1 mailbox queue that is defined by the logical name OA\$MTI_MAILBX.

When the Fetcher batch job next runs, it connects to the Transfer Service to check whether there are any messages to fetch from the mailbox. If there are, it invokes ALL-IN-1 to fetch and deliver them as described below. If there are not, the job exits. In both cases the Fetcher command file is resubmitted.

To fetch a message, the Fetcher:

- Connects to the Transfer Service (using DECnet object 22)
- Identifies itself to the Transfer Service
- Copies the NBS format envelope and message files to the message data directory (OA\$MTI_DATA), and stores these files on the Fetcher queue in OA\$DATA:PENDING.DAT
- Disconnects from the Transfer Service
- Translates the message file from NBS format to ALL-IN-1 message format, and stores it in the ALL-IN-1 File Cabinet under the Postmaster account name
- Opens the envelope file, examines the list of addressees, and delivers the message to them
- If one or more of the addressees do not have ALL-IN-1 accounts locally, sends a non-receipt notification to the originator of the message listing the unknown addressees
- Once the message has been received, sends a receipt notification to the originator of the message listing the addressees who have received the message, if the originator requested Delivery Receipt
- Deletes the copies of the envelope and message files from the OA\$MTI_DATA directory, deletes the entry in the Fetcher queue, and deletes the copy of the message in the Postmaster's account

4.5.1 If the Message Is Not Received

If the Fetcher job fails before the message has been collected from the Transfer Service, the Transfer Service keeps the message and tries to deliver it the next time the Fetcher runs.

If the Fetcher job fails after the message has been collected from the Transfer Service, the message is requeued in OA\$DATA:PENDING.DAT with its retry count increased by one. If the Fetcher job continues to fail, and the retry limit is reached, the message is deleted from the queue. The Postmaster then sends a message to the ALL-IN-1 manager, informing him or her that the message has been removed from the queue, and giving the names of the envelope and message files that are still held in OA\$MTI_DATA in NBS format. See the Message Router documentation for details of how to examine these files. If possible, a non-delivery notification is sent to the originator of the message, but this is not always possible if, for example, the message is corrupt.

If you know that Message Router is going to be temporarily unavailable, you should use the Hold Fetcher (HF) option on the Manage Messaging menu to put the Fetcher job on hold (see the chapter on managing ALL-IN-1 mail). Putting the Fetcher on hold stops the Fetcher attempting to connect to the Message Router Transfer Service and failing.

Managing ALL-IN-1 Mail

5.1 Mail Management Tasks

This chapter describes the tasks involved in managing and maintaining ALL-IN-1 mail. These are either routine tasks or occasional tasks.

The routine maintenance tasks are those that you perform regularly to avoid problems and ensure that ALL-IN-1 mail is running correctly. These tasks are:

- Controlling the Sender and Fetcher
- Monitoring the error log file and opening new log files
- Changing the mailbox password
- Maintaining the network profile

The occasional tasks are those that you perform only in response to a specific requirement or problem. These tasks are:

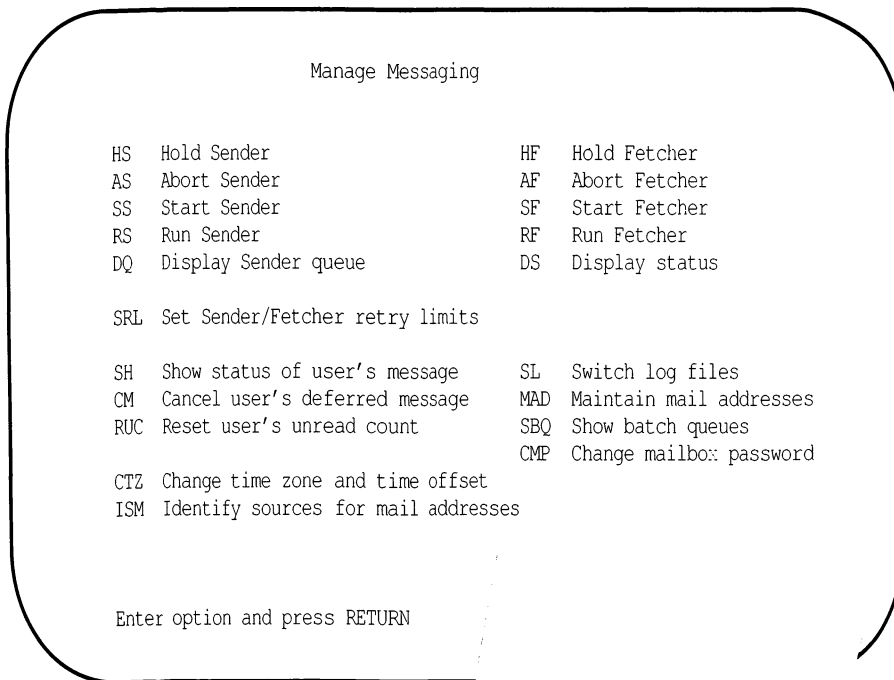
- Defining a new batch queue for the Sender and Fetcher
- Changing the frequency of the Sender and Fetcher
- Creating new accounts for the Sender and Fetcher
- Specifying the time zone and time offset
- Resetting a user's unread message count
- Canceling a deferred message

5.2 Manage Messaging Menu

Many of the tasks described in this chapter are carried out using options on the Manage Messaging menu, which is shown in Figure 5–1. To access this menu:

- 1 Log in to the ALL-IN-1 manager's VMS account. Do not use the Postmaster account, because doing so prevents the Sender and Fetcher batch jobs from running.
- 2 Log in to the ALL-IN-1 manager's ALL-IN-1 account, by entering:
`$ ALLIN1/USER=MANAGER`
- 3 Enter `SM` to display the ALL-IN-1 Management menu.
- 4 Enter `MM` to display the Manage Messaging menu.

Figure 5–1 Manage Messaging Menu



5.3 Controlling the Sender and Fetcher

The Manage Messaging menu provides options for controlling the Sender and Fetcher. The following sections describe these options.

5.3.1 Putting the Sender on Hold (HS)

Use the Hold sender (HS) option to put the Sender on hold. If the Sender is running when you use HS, the Sender sends all messages in the queue before it goes on hold. The Sender remains in the batch queue, but does not send messages.

Use this option if, for example, Message Router is temporarily unavailable, to prevent the Sender generating error messages.

5.3.2 Putting the Fetcher on Hold (HF)

Use the Hold fetcher (HF) option to put the Fetcher on hold. If the Fetcher is running when you use HF, the Fetcher fetches all messages in the queue before it goes on hold. The Fetcher remains in the batch queue, but does not fetch messages.

Use this option if, for example, you need to stop ALL-IN-1 using Message Router temporarily.

5.3.3 Aborting the Sender (AS)

Use the Abort Sender (AS) option to set the Sender to STOPPED. If the Sender batch job is currently running, it sends all messages in the queue before it stops. The next time the Sender is invoked, it does not run, and does not resubmit itself on the batch queue OA\$MTI_QUEUE.

Use this option if, for example, you need to edit the Sender command procedure to change the frequency that the Sender runs.

To stop the current run of the Sender, use the DCL command STOP:

```
$ STOP "A1 Sender"
```

Note that you must type Sender as shown, with an upper case S only.

5.3.4 Aborting the Fetcher (AF)

Use the Abort Fetcher (AF) option on the Manage Messaging menu to set the Fetcher to STOPPED. If the Fetcher job is currently running, it fetches and delivers all messages before it finishes. The next time the Fetcher is invoked, it does not run, and does not resubmit itself on the batch queue OA\$MTI_QUEUE.

Use this option if, for example, you need to edit the Fetcher command procedure to change the frequency that the Fetcher runs.

To stop the current run of the Fetcher, use the DCL command STOP:

```
$ STOP "Al Fetcher"
```

Note that you must type Fetcher as shown, with an upper case F only.

5.3.5 Starting the Sender (SS)

Use the Start sender (SS) option to start the Sender after it has been stopped (with AS), put on hold (with HS), or accidentally deleted from the batch queue. You must be logged in to the ALL-IN-1 manager's account to start the Sender.

If the Sender has been stopped by the AS option, the SS option submits the Sender job to the batch queue OA\$MTI_QUEUE. The Sender job is run immediately and then resubmits itself.

If the Sender has been put on hold by the HS option, the SS option takes it off hold, so that when it next runs it will send messages.

5.3.6 Starting the Fetcher (SF)

Use the Start Fetcher (SF) option to restart the Fetcher after it has been stopped (with AF), put on hold (with HF), or accidentally deleted from the batch queue. You must be logged in to the ALL-IN-1 manager's account to start the Fetcher.

If the Fetcher has been stopped by the AF option, the SF option submits the Fetcher job to the batch queue OA\$MTI_QUEUE. The Fetcher job is run immediately and then resubmits itself.

If the Fetcher has been put on hold by the HF option, the SF option takes it off hold so that when it next runs it will fetch messages.

5.3.7 Running the Sender (RS)

Use the Run Sender (RS) option to run the Sender interactively in the ALL-IN-1 manager's process. The Sender makes one pass through the queue and sends all messages. You can use this option to clear all messages in the queue immediately, rather than waiting for the next run of the Sender as a batch job.

5.3.8 Running the Fetcher (RF)

Use the Run Fetcher (RF) option to run the Fetcher interactively in the ALL-IN-1 manager's process. The Fetcher makes one pass through the queue and fetches all messages. You might use this option if users are not receiving remote mail with the Fetcher running as a batch job.

5.3.9 Displaying the Sender and Fetcher Status (DS)

Use the Display status (DS) option to display the status of the Sender and the Fetcher. When you enter DS, a status message is displayed at the bottom of the Manage Messaging menu. For example:

Sender is RUNNING NOW. Fetcher is ON HOLD.

The possible values for the status of the Sender and the Fetcher are:

- **RUNNING NOW** - the job is running
- **WAITING TO RUN** - the job is on the queue OA\$MTI_QUEUE, with its status shown as Running
- **ON HOLD** - the job has been put on hold by the HS or HF options
- **STOPPED** - the job has been stopped by the AS or AF options, and is not on the queue OA\$MTI_QUEUE
- **NOT ON QUEUE** - the job is not on the queue OA\$MTI_QUEUE, but it should be on the queue (that is, it has not been stopped by the AS or AF options)

You must be logged in to the ALL-IN-1 manager's account to display the Sender and Fetcher status.

5.3.10 Displaying Messages Waiting in the Sender Queue (DQ)

Use the Display Sender queue (DQ) option to display a list of all messages that are waiting to be sent by the Sender. This option displays the following information about each message:

- The sender of the message
- The date and time of posting, which is the time the user pressed S to send the message
- The delivery status of the message:
 - L means the message has local addressees only. The message is either second class mail or a receipt notification.
 - R means the message is being queued with the NBS files already built. For example, a message has been fetched and put on the Sender queue for redirecting to a remote node; or a message has been processed by the first pass of the Sender and is waiting to go to the Message Router Transfer Service; or a message has failed to reach the Transfer Service and has been requeued.
 - P means the message is first class mail with at least one remote addressee.
 - D means the message is deferred and waiting to be sent.

- The retry count; that is, the number of times the Sender has tried to send the message
- The subject of the message

No privilege is needed for this option.

5.3.11 Showing the Sender and Fetcher Queues (SBQ)

Use the Show batch queues (SBQ) option to show the current batch queues. You can use SBQ to check that the Sender and Fetcher batch jobs, OAMTISEND and OAMTIMAIL, are on the queue OA\$MTI_QUEUE. For each job, SBQ displays the username, entry number on the queue, and status, such as HOLDING or PENDING.

5.3.12 Defining a New Batch Queue for the Sender and Fetcher

When ALL-IN-1 is installed, the Sender and Fetcher are set up to be submitted to the same batch job queue. The default queue is SYS\$BATCH. The logical name OA\$MTI_QUEUE identifies the queue.

You may decide to submit the jobs to another queue. If the Sender and Fetcher have their own queue, it prevents SYS\$BATCH from becoming overloaded and running too slowly. You can specify different parameters for the queue, such as the working set for the queue, and the priority of the queue.

To specify a batch queue for the Sender and Fetcher, log in to the ALL-IN-1 manager's account and carry out the following steps:

- 1 Create a new batch queue, if required, by entering:

```
$ INITIALIZE/BATCH/QUEUE queueName
$ START/QUEUE queueName
```

where queueName is the name of a new batch queue.

To make this change permanent enter the second line in the system startup file, SYS\$MANAGER:SYSTARTUP.COM.

- 2 Switch the Sender and Fetcher batch jobs to the new batch queue, or to an existing batch queue, by redefining the logical name OA\$MTI_QUEUE.

To make this change permanent, redefine the logical name OA\$MTI_QUEUE in the ALL-IN-1 startup file OA\$SITE_BUILD_SHARE:A1V24_SITE_START.COM.

Creating a separate batch queue for the Sender and Fetcher has no effect on the speed of delivery of Express and local First class messages, as these messages are not sent by the Sender batch job. However, it may improve the speed at which remote First class and all Second class messages are sent.

5.3.13 Changing the Frequency of the Sender and Fetcher Batch Jobs

You may be able to improve performance by changing the frequency with which the Sender and Fetcher batch jobs are submitted.

Handling remote mail delivery can be expensive in terms of system resources. If the Sender and Fetcher batch jobs have to deliver only a small number of messages at a time, they can add a significant processing overhead to the system.

To change the frequency of the Sender and Fetcher batch jobs, edit the appropriate command procedure (OA\$LIB:OAMTISEND.COM or OA\$LIB:OAMTIMAIL.COM), and amend the line containing the SUBMIT command so that the /AFTER qualifier specifies the required interval. For example:

```
$ SUBMIT OA$LIB:OAMTISEND /RESTART /NOPRINT -  
_$_ /NONOTIFY /AFTER="+0:30" /QUEUE=OA$MTI_QUEUE
```

5.3.14 Setting the Sender and Fetcher Retry Limits (SRL)

Use the Set Sender/Fetcher retry limits (SRL) option to change the number of times the Sender and Fetcher try to deliver a message before sending a non-delivery notification to the originator of the message. The default value is nine, and you can specify any number from zero up to nine, where zero means try only once, and nine means try ten times.

Use this option if your system is overloaded and messages are failing to be delivered. In this situation, messages that have no chance of being delivered can fill up the queues waiting to try for delivery again. If you lower the retry count, these messages will drop off the queue sooner, so that the rest of the mail can be delivered more quickly.

This option sets the system permanent symbols, SYS\$OA\$MTI_SENDER_RETRY_LIMIT, and SYS\$OA\$MTI_FETCHER_RETRY_LIMIT.

5.3.15 Creating New Accounts for the Sender and Fetcher

The Sender and Fetcher batch jobs both access the File Cabinet of the Postmaster's account. Each time either job runs, it ensures that it is the only job using the Postmaster's File Cabinet by trying to get exclusive access to the VMS files, OA\$MTI_DATA:SENDLOCK.DAT and OA\$MTI_DATA:FETCHLOCK.DAT. If the job cannot open one of these files (because the other job is running), it resubmits itself and exits.

In a heavily-loaded system, or one that handles a lot of remote mail, there may be long intervals when either the Sender or the Fetcher cannot run because the other job is processing. This can slow down mail delivery. If this happens, create two new ALL-IN-1 accounts to run the Sender and Fetcher as follows:

- 1 Create two new ALL-IN-1 accounts with the names A1SENDER and A1FETCHER. Create them with the same VMS account name as the Manager and Postmaster account (usually ALLIN1).

Note that the new accounts must have separate ALL-IN-1 File Cabinets. That is, the Directory fields in their account details must be different.

For details of how to create accounts, see the *ALL-IN-1 Management Guide*.

- 2 Edit the Sender command procedure, OA\$LIB:OAMTISEND.COM, to include the new username:

```
! Run A1
ALLIN1/USER=A1SENDER/PASSWORD= <alsenderpassword>/NOINIT
```

In addition, comment out the lines relating to FETCHLOCK.DAT.

- 3 Edit the Fetcher command procedure, OA\$LIB:OAMTIMAIL.COM, to include the new username:

```
! Run A1
ALLIN1/USER=A1FETCHER/PASSWORD=<a1fetcherpassword>/NOINIT
```

In addition, comment out the lines relating to SENDLOCK.DAT.

5.4 Monitoring the Log Files

There are various log files for ALL-IN-1 mail:

- The ALL-IN-1 traffic log file, which is defined by the logical name, OA\$MTI_LOG
- The Electronic Messaging error log file, which is defined by the logical name, OA\$MTI_ERR
- The Sender and Fetcher batch job log files, OAMTISEND.LOG and OAMTIMAIL.LOG, respectively.

Check the error log file, OA\$MTI_ERR, at least once a day, or whenever users complain of not receiving messages. To do this, log into the ALL-IN-1 manager's VMS account, and use the DCL command TYPE. For details of the error messages that can appear, and the actions to take, see the chapter on problem solving.

In addition, check the size of both the traffic log file and the error log file, and open new ones if necessary, using the Switch log files (SL) option.

5.4.1 Opening New Log Files (SL)

Use the Switch log files (SL) option to open a new traffic log file (logical name OA\$MTI_LOG) and error log file (logical name OA\$MTI_ERR).

As the size of these two files increases, it takes longer to append new records to them, and mail slows down. You must check these files regularly, and close and replace them if necessary.

The SL option opens new log files and renames the old ones by changing the filename extension from .LOG to .BAK. You can choose to print the current files, and to purge previous versions of the files.

You need SYSPRV privilege, or write access to the old and new files, for this option. Alternatively, you can use the ALL-IN-1 manager's ALL-IN-1 account.

5.5 Interactive Message Router Exception Reporting

To run exception reporting interactively, log in to the MBMANAGER account and enter:

```
$ @MB$ROOT:[MB$COM]MB$A1_ER
```

The following is an example of the messages that appear on your screen:

```
24-NOV-1989 09:59:50
+++++
- Messaging Network V3.1 Job MB$A1 on node ORANGE -
setting up defaults for MB$A1 from the MBMANAGER account.
Run job on batch queue [N] ?
```

Press RETURN to accept the default answer of running the exception reporting routines interactively. Otherwise, enter YES and press RETURN to run the exception reporting routines in batch.

If you accepted the default answer of running exception reporting interactively, the routine continues to display messages as follows:

```
+++++
Checking ALL-IN-1 logicals defined
+++++
Check availability and space of _DJA1: for MBMANAGER (needs ...
+++++
Checking ALL-IN-1 sender and fetcher queues
The queue contains 0 messages waiting to be fetched.
The queue contains 18 messages waiting to be sent.
+++++
ALL-IN-1 checks complete
+++++
```

In the above example, the number of messages waiting to be sent is higher than the default number, 15. This shows that the alarm level has been triggered and there is an error on the node. Recover from this problem by following the instructions in MAP A1 6.

5.5.1 Reconfiguring Exception Reporting

There are two reasons why you might want to reconfigure exception reporting for the ALL-IN-1 Electronic Messaging subsystem:

- To accommodate changes to your system
- To recover from errors

If you have configured exception reporting for the ALL-IN-1 Electronic Messaging subsystem before, the default answers to the questions asked might have changed. When you reconfigure exception reporting for the ALL-IN-1 Electronic Messaging subsystem, you are offered the existing values, rather than the default values. To see what the existing values are, log in to the SYSTEM account and enter:

```
$ @SYSSMANAGER:MB$CONFIG SHOW A1
```

This shows you the current settings. Decide which parameter values are acceptable for your network and which parameter values you need to change during configuration.

If you want to reconfigure exception reporting for the ALL-IN-1 Electronic Messaging subsystem, follow the steps described in the sections on preparing for configuration and the configuration procedure.

5.6 Changing the Mailbox Password (CMP)

You should change the mailbox password regularly for security reasons, using the Change mailbox password (CMP) option. You need ALL-IN-1 supervisor privilege (SUP), and VMS SYSPRV privilege to use this option. Alternatively, you can log in to the ALL-IN-1 manager's account.

For the Sender and Fetcher to access the mailbox, the password must be the same in ALL-IN-1 and in the Message Router Transfer Service database.

If Message Router is installed on the same node or cluster as ALL-IN-1, the CMP option changes the password in both ALL-IN-1 and the Message Router Transfer Service. If Message Router is on a remote node, you must change the password in the Message Router Transfer Service, as well as using the CMP option to change it in ALL-IN-1. To change the mailbox password, if Message Router is local:

- 1 Put the Sender and Fetcher on hold, using the Hold Sender (HS) and Hold Fetcher (HF) options.

- 2 Change the mailbox password in ALL-IN-1, using the CMP option. This option automatically changes the password in the Message Router Transfer Service database.
- 3 Restart the Sender and Fetcher, using the Start Sender (SS) and Start Fetcher (SF) options.

To change the mailbox password, if Message Router is remote:

- 1 Put the Sender and Fetcher on hold, using the Hold Sender (HS) and Hold Fetcher (HF) options.
- 2 Use the CMP option to change the mailbox password in ALL-IN-1.
- 3 Exit from ALL-IN-1, and find out the name of the mailbox, by entering:

```
$ SHOW LOGICAL OA$MTI_MAILBX
```

This command displays:

```
"OA$MTI_MAILBX" = "mailbox"
```

- 4 Log in to the MBMANAGER account on the remote node, and change the password for the mailbox, using the Transfer Service Management Utility, MRMAN. To do this, enter:

```
$ SET HOST node
$ RUN SYSSYSTEM:MRMAN
MRM> MODIFY mailbox /PASSWORD="password"
MRM> EXIT
$ LOGOUT
```

where:

- node is the remote node or cluster where Message Router is installed
 - mailbox is the name of the mailbox you found out in step 3
 - password is the new password that you entered using the CMP option. Enter the password in quotes as shown, and in UPPER CASE.
- 5 From the ALL-IN-1 manager's ALL-IN-1 account on your own node, restart the Sender and Fetcher, using the Start Sender (SS) and Start Fetcher (SF) options.

5.7 Specifying the Time Zone and Time Offset (CTZ)

Use the Change time zone and time offset (CTZ) option after ALL-IN-1 is installed, to specify the *time zone* in which your system is located, and the *time offset* between the time on your system and Greenwich Mean Time (GMT). The time offset is the number of hours that your time zone is ahead of (+) or behind (-) GMT.

You must also change the time zone and time offset if the time changes between summer and winter; for example, when daylight-saving time is in operation.

ALL-IN-1 is installed with the time zone specified as GMT and a time offset of zero.

You need VMS SYSPRV privilege to use this option, or you can log in to the ALL-IN-1 manager's account. To change the time zone or time offset:

- 1 Enter CTZ from the Manage Messaging menu.
- 2 Enter the abbreviated three-letter name of the new time zone.
Enter the standard abbreviation that your users recognize, for example, EST for Eastern Standard Time, CDT for Central Daylight Saving Time, or BST for British Summer Time. This information appears with the date and time on messages.

- 3 Enter + or – followed by the new time offset.

The time offset is the difference in hours and minutes between your time zone and GMT. Enter a negative time offset if your time zone is behind GMT, and a positive time offset if your time zone is ahead of GMT.

For example, Eastern Standard Time is five hours behind GMT, so you enter the time offset as –05:00. If the time zone is GMT, the time offset is +00:00.

Note that the ALL-IN-1 time offset is entered in the opposite way to the Message Router time offset. When you configure Message Router, you specify a negative time offset if your time zone is ahead of GMT, and a positive time offset if your time zone is behind GMT. This is because Message Router must accept messages time-stamped with the local time, and convert the local time to GMT.

5.8 Resetting a User's Unread Message Count (RUC)

If ALL-IN-1 shows a user's unread message count as one or more, but the user has no more new messages to read, you can use the Reset user's unread count (RUC) option to reset the count to zero.

When you use this option, ALL-IN-1 prompts for the account name and warns you that using the option may delete the user's unread mail. The option deletes unread mail from OA\$DATA:PENDING.DAT, but not from the user's folders. Before you use the RUC option, ask the user to:

- Check that he or she does not have any unread mail either in the Inbox, or refiled in other folders. To do this, use the Index (I) option and specify UNREAD in the Status field.

- Use the Index - Inbox (II) option on the Electronic Messaging menu, because this option brings unread messages into the user's Inbox, and avoids losing unread messages.

You need SYSPRV privilege for this option. Alternatively, you can use the ALL-IN-1 manager's ALL-IN-1 account.

5.9 Displaying the Status of a Message (SH)

Use the Show status of user's message (SH) option to display a message header. You specify the user, the folder, and then the message for which you want to see the message header.

The display is the same as that for the Show message status (SH) option on the Electronic Messaging menu. The display includes the Message Router identifier of the message. You may need to pass the Message Router identifier to the Message Router manager to help in tracing a message sent to Message Router. The display does not include the text of the message.

You need SYSPRV privilege for this option. Alternatively, you can use the ALL-IN-1 manager's ALL-IN-1 account.

5.10 Canceling a Deferred Message (CM)

Use the Cancel user's deferred message (CM) option to remove a message marked for deferred delivery from the Sender queue. You specify the user, and the message you want to remove.

If there are several messages in the queue, a list of messages is displayed. (The list is similar to the list displayed by the Cancel deferred delivery (CAN) option on the Electronic Messaging menu.) You then select the message you want to remove.

You need SYSPRV privilege for this option. Alternatively, you can use the ALL-IN-1 manager's ALL-IN-1 account.

5.11 Maintaining the Network Profile

To maintain the network profile, you need to:

- Add and remove nodes from the multi-nodes file as necessary, using the Identify Sources for mail addresses (ISM) option.
- Set the Mnode field to Y in the account details of any users who need to be in the network profile. See the *ALL-IN-1 Management Guide* for how to edit users' account details.
- Set the Mnode field to N for users whose entries need to be removed. See the section on deleting entries in this chapter.

- Make sure that the housekeeping procedures to update the network profile are scheduled to run regularly.

Add, edit, and remove entries for non-ALL-IN-1 users, using the Maintain mail addresses (MAD) option. Since the users have no way of updating this information, you must regularly check it, and correct it as necessary.

5.11.1 Updating the Multi-Nodes File (ISM)

The multi-nodes file for your system identifies all the nodes from which your system obtains information for the network profile. You can use the Identify sources for mail addresses (ISM) option to add a node to the multi-nodes file.

For details of how to use the ISM option, see the chapter on setting up.

5.11.2 Deleting ALL-IN-1 Entries from the Network Profile

To delete an entry from the network profile, edit the user's account details, so that the Mnode field is set to N. This automatically marks the user's entry in the network profile as needing deletion, by setting the Deleted field to Y.

When the Delete Old Mail Addresses (DA) housekeeping procedure next runs, this user's entry is deleted from the network profile, along with any other entries that have been marked for deletion. Entries are marked when:

- The Mnode field in a user's account details is changed to N.
- An ALL-IN-1 account is deleted.
- The Update Mail Addresses (UA) housekeeping procedure is run. This procedure asks the nodes listed in the multi-nodes file whether any entries are marked for deletion in the remote network profiles. If there are, the procedure marks the corresponding entries in the local network profile.

Note *Do not run the DA procedure until all systems in your network have run their UA procedures and have noted which of your network profile entries need deleting.*

The housekeeping procedures are scheduled by the ALL-IN-1 manager, and are described in the *ALL-IN-1 Management Guide*.

5.11.3 Maintaining Non-ALL-IN-1 Users (MAD)

Use the Maintain mail addresses (MAD) option to create, edit, or delete entries in the network profile for users other than ALL-IN-1 users who are included in the multi-nodes file. This option is for including in the network profile the name and mail address of any user in your network; for example, a VMSmail user.

Note *You should only create, edit, and delete entries for systems you are responsible for.*

To create an entry for a non-ALL-IN-1 user in the network profile:

- 1 Enter **MAD** from the Manage Messaging menu.
- 2 Enter **C** to create an entry.
- 3 Fill in the Network Profile form with the following information, referring to the *ALL-IN-1 Management Guide* as necessary:

Username
Node
Title
Organization
Phone
Address
Zip Code

- 4 Complete the remaining fields on the network profile form as follows:
 - **Network Address**
Enter the user's network mail address. For a description of valid addresses, see the chapter on addressing messages.
 - **Last update**
ALL-IN-1 completes this field with the date and time whenever the network profile entry is updated. You cannot change this field.
 - **Mnode**
ALL-IN-1 initially sets this field to the default of Y. Change the setting of this field to N if you do not want this entry to be copied to other nodes.
 - **Deleted**
ALL-IN-1 initially sets this field to the default of N, to show that this entry is not to be deleted.

To change an entry for a non-ALL-IN-1 user, use the Edit (E) option from the Maintain Mail Addresses menu.

To delete an entry for a non-ALL-IN-1 user, use the Delete (D) option from the Maintain Mail Addresses menu.

Note *Do not use the Delete (D) option to delete ALL-IN-1 users from the network profile. You must set the Mnode field to N for these users, to prevent them from being added to the network profile again next time the Update Mail Addresses (UA) housekeeping procedure is run.*

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NOCNFDB - No configuration database set up on the node <nodename>

where <nodename> is the name of the node that does not have a configuration database.

Task 1 *

This error message might have been reported as an exception condition in Message Router. Ask the Message Router manager if this NOCNFDB error has been reported in Message Router and if he has recovered from it. If he has not recovered from this error, carry out Task 2.

Task 2 **

Ask the VMS system manager to retrieve the database from a backup copy.

The name of the configuration file is given by the translation of the logical name MB\$CNFDB. Log in to the MBMANAGER account and use the following commands to identify the database name:

```
$ @SYS$MANAGER:MB$LOCATION
$ SHOW LOGICAL MB$CNFDB
```

Ask the Message Router manager, and the gateway managers of any gateways included in your mail network, to repeat any changes known to have been made to the database since it was backed up. Use the MB\$CONFIG SET and RECOVER commands to do this.

If this Task fails to solve the problem, carry out Task 3.

Task 3 **

Ask the Message Router manager, and the gateway managers of any gateways included in your mail network, to create a new configuration database using the MB\$CONFIG procedure.

The Message Router documentation gives details of how to configure Message Router, and the relevant gateway management guides give details of how to configure the gateways installed on your network.

Solving Problems

6.1 Introduction

Problems with mail may occur in ALL-IN-1, in Message Router, or in a gateway, such as the Message Router VMSmail Gateway. This means that solving problems requires liaison between you, and the ALL-IN-1 manager, and whoever manages Message Router and any gateways that are used.

This chapter describes some of the problems that can arise in ALL-IN-1 that will prevent mail from being sent and received, and suggested solutions for them. If these suggestions do not solve the problem, the problem may be with Message Router or one of the gateways. Contact the manager concerned to discuss the problem.

If Message Router exception reporting for the ALL-IN-1 Electronic Messaging subsystem is enabled, you will have the reports generated for ALL-IN-1 to help with solving the problem.

To avoid problems, you should make the following checks regularly:

- Check the status of the Sender and Fetcher to see if they are running or not
- Check the Sender and Fetcher queues to see how many messages are waiting to be sent and received

If you know that Message Router is going to be temporarily unavailable, you can prevent the Sender from failing, by putting it on hold. To do this, use the Hold Sender (HS) option on the Manage Messaging menu.

Possible causes of problems are:

- A user's unread message count is incorrect
- The Postmaster's ALL-IN-1 password is not the same as the passwords specified in the Sender and Fetcher command procedures

- Errors in the ALL-IN-1 mailbox entry in the Transfer Service mailbox directory
- Errors in the operation of the Sender and Fetcher
- Errors in the definition of logical names
- Incorrect file protection on messaging files
- Deletion of messaging files
- VMS file or disk corruption
- The device used for the message data directory OA\$MTI_DATA is full or off-line
- FETCHCHECK.EXE and SENDCHECK.EXE do not exist or the file protection is incorrect
- RMS file errors
- Network failure

6.1.1 Sources of Information

Sources of error reports are:

- The Electronic Messaging error log file (logical name OA\$MTI_ERR), which contains any errors that occurred when sending and receiving messages. The log file includes the date and time of the error together with details of the error.
- The log files for the Sender and Fetcher, OAMTISEND.LOG and OAMTIMAIL.LOG, which are in the ALL-IN-1 account directory, which has the default name ALLIN1
- Error messages sent to the ALL-IN-1 manager by the Postmaster
- Mail directory error messages
- Exception reports, if exception reporting is enabled. If exception reporting is not used on your node, the same problems will stop mail from being sent or received, but you will not receive notification of the problem.

Remember, though, that the exception reports cannot detect all the possible errors that can occur. You must always monitor your system for problems and potential problems.

The ALL-IN-1 traffic log file (logical name, OA\$MTI_LOG), is also a useful source of information. It holds details of each message that is sent from ALL-IN-1. It therefore provides an indication of the demands on the mail system.

An entry is added to the traffic log file when a message is sent to local addressees, and when it is processed by the Sender. So, first and second class messages to both local and remote addressees have two entries in the traffic log file. One entry signifies sending the message to the local addressees, and the other entry signifies processing the message for the remote addressees. Express class messages have a single entry, which is added when the message is sent.

The traffic log file is a sequential file, 132 columns wide. Each entry in the file contains the following information:

- The date and time the message was posted
- The account name of the user sending the message
- Whether or not the user sending the message requested a delivery receipt
- The priority of the message, which is:
 - F for express
 - N for first class
 - T for second class
- The number of local addressees
- The number of remote addressees
- The name of the file in the mail area where the message text is stored

6.1.2 Tracing a Local Message in ALL-IN-1

To trace a message that has been sent to a local ALL-IN-1 user, but has not been received, check:

- The Mail Destination field in the recipient's account details, and make sure that it is ALL-IN-1 or ALLIN1.
- The Node field in the recipient's account details, and make sure that it either contains the name of the local node or is empty. If the node is part of a cluster, the field must be empty.
- That the recipient does not have auto forwarding set. Use Auto Forward (AF) on the Electronic Messaging menu to display the current forwarding address.

6.1.3 Tracing a Remote Message in ALL-IN-1

This section gives an overview of the procedures you need to follow to trace a message that has been sent but not received within ALL-IN-1. In most cases, the user who sent the message receives a non-receipt notification explaining why the message was not delivered. In a few cases, neither the Message Router Transfer Service nor the recipient's mail system can send a notification. This section assumes that there is no such notification, and you want to find out why the message has not been delivered, even though it has been sent.

Ask the user who sent the message to use the Show message status (SH) option on the Electronic Messaging menu to show the header of the message, or use the Show status of user's message (SH) option on the Manage Messaging menu and select the required message to show the message header. Check that the message status is SENT. Find out the following information:

- When the message was posted
- The VMS file name of the message
- The Message Router identifier of the message
- Which node it was sent from
- Who the message was sent to
- Which node it was sent to

When the user sends the message, the message is queued to go to the Transfer Service. When it is passed to the Transfer Service, the Transfer Service accepts the message and gives it a Message Router identifier, which is written into the header of the message at the sending node.

If there is a Message Router identifier, the message has been sent from ALL-IN-1 to the Transfer Service. If there is no Message Router identifier, the message should still be queued.

With the above information, you should then:

- Decide if there has been enough time for the message to have arrived. You must allow extra time for busy periods.
- Check that the address of the recipient is correct; that is, that the node and user exist.
- Allow for any known problems on the network. A node may have been unavailable or there may have been a network failure.

If you think the message should have arrived, you must trace the path of the message, looking for evidence on the way.

If there is no Message Router identifier, follow these steps:

- 1 Log in to the ALL-IN-1 manager's account.
Use the Display Sender queue (DQ) option on the Manage Messaging menu to check whether the message is still on the Sender queue. If the message is not on the queue, go to the next step.
- 2 Look at the Electronic Messaging error log file (logical name OA\$MTI_ERR) of the sending node. Is there an entry for the message?
 - If there is an entry, it indicates the reason for the error; for example, a mismatched password
 - If there is no entry, go to the next step
- 3 Look at the traffic log file (logical name OA\$MTI_LOG) of the sending node. Look for the sender name and the VMS file name of the message. If there is an entry under Remote Addresses with a number other than zero, this confirms that the message was sent to the Message Router Transfer Service.
- 4 Look at the queue OA\$MTI_QUEUE. Is the Sender batch job on it?
 - If the Sender is not on the queue, submit it to the queue using the Start Sender (SS) option on the Manage Messaging menu
 - If the Sender is on the queue, go to the next step
- 5 Check that the Sender is running by using the Display status (DS) option on the Manage Messaging menu. ALL-IN-1 displays a message showing the status of the Sender.
 - If the Sender is running, go to the next step
 - If the Sender is on hold, start it using the SS option
- 6 Check that the Mail Destination field contains either ALL-IN-1 or ALLIN1.
- 7 Enter EX to leave ALL-IN-1.
- 8 Check the version of the Sender log file OAMTISEND.LOG that was current when the message was sent. If there is an error message, it indicates the reason for the error

The following steps describe the procedure for tracing a lost message at the destination node:

- 1 If the destination is a local mailbox, you must find out why the message was not fetched.

At the destination node, check the ALL-IN-1 mailbox entry:

- a Log in to the MBMANAGER account, and run MRMAN by entering:

```
$ RUN SYS$SYSTEM:MRMAN
```


- b** Display the mailbox entries by using the SHOW command:

```
MRM> SHOW mailbox
```

where mailbox is the name of the ALL-IN-1 mailbox.

The entry in the Transfer Service mailbox directory for ALL-IN-1 should include the COMPLETE_MESSAGES, IGNORE_SENDER, GRANT_ID and SERVICE_MESSAGES qualifiers, for example:

```
A1,      Owner=ALLIN1 Complete_Messages Ignore_Sender Grant_Id  
Service_Messages
```

If the entry for the mailbox is not as shown above, use the MODIFY command in MRMAN to correct it.

If you have corrected the entry, send a test message.

If the entry is correct, go to the next step.

- 2** Use the Change mailbox password (CMP) option on the Manage Messaging menu to set up the same password in ALL-IN-1 and in Message Router.
- 3** At the destination node, look at the mailbox queue, using the DUMP command from MRMAN. To do this, log in to the MBMANAGER account and enter:

```
$ RUN SYSSYSTEM:MRMAN  
MRM> DUMP mailbox
```

where mailbox is the name of the ALL-IN-1 mailbox (for example, A1).

Check whether the message is there by looking for its Message Router identifier:

- If the mailbox does not contain the message, check the Fetcher log OAMTIMAIL.LOG for an error relating to the message
- If the mailbox contains the message, the link with ALL-IN-1 is not working

Check that the Fetcher is running by using the Display status (DS) option on the Manage Messaging menu.

ALL-IN-1 displays a message showing the status of the Fetcher.

- If it is running, go to the next step
- If it is on hold, start it using the SF option, and exit from ALL-IN-1

Check the Transfer Service listener log file (NETSERVER.LOG) for an error message.

- If there is a message, it indicates the reason for any failure
- If there is no message in the listener log file, go to the next step

- 4 Check that the recipient does not have autoforward set, and that the Node field in the recipient's account details is blank or set to the current node.
- 5 Check the Electronic Messaging error log file (OA\$MTI_ERR) for the destination node. Is there an entry for the message?
 - If there is an entry, it indicates the reason for the error
 - If there is no entry, go to the next step
- 6 Check the queue OA\$MTI_QUEUE. Is the Fetcher batch job on it?
 - If the Fetcher is not on the queue, submit it to the queue using the SF option on the Manage Messaging menu
 - If the Fetcher is on the queue, go to the next step
- 7 Check the Fetcher log file OAMTMAIL.LOG. Is there a Fetcher error message?
 - If there is an error message, it indicates the reason for the error
 - If there is no error message, go to the next step
- 8 Save the log file information and contact Digital.

The Message Router Gateway Management guides include more information on tracing messages.

6.2 Error Messages

The following sections describe three types of error message:

- Errors reported in the error log file
- Remote Message Router error messages
- Mail directory error messages

6.2.1 Errors Reported in the Error Log File

This section lists the error messages that can appear in the Electronic Messaging error log file OA\$MTI_ERR, and describes the action to take. OA\$MTI_ERR may contain Message Router error messages, which are explained in the Message Router documentation. In the error messages:

<file>	file specification of the NBS file being transferred
<type>	single letter Message Router response, such as F for Fetch, or S for Send, or E for End
<code>	two character code representing the error

- FLCDERR Error in closing and deleting the file <file>

A possible cause is that a user has sent an Express message and does not have SYSTEM DELETE privilege in his default protection. Probably, ALL-IN-1 has sent the message correctly and the error message is for information only.

- FILNOTFND File not found <file>

The lines following this message explain the reason for the error, for example, an RMS error. Check that the NBS version of the file has not been deleted.

- FILOPERR Error in opening the file <file>

The lines following this message explain the reason for the error, for example, an RMS error. Check that the NBS version of the file has not been deleted.

- GETERR MR returned error from lnk_get, last sent <type> and <file>, expected <type>

An error occurred while sending data to the Transfer Service. The likely cause is network failure, so try again.

- MRPROTERR MR replied with something unexpected, last sent <type> and <file>, got back <type>, <code>

Check the VMS file protection associated with the OA\$MTI_DATA directory.

- OPENERR Error opening link to Message Router

An error occurred while sending data to or fetching data from the Transfer Service. The likely cause is network failure, so try again.

- PUTERR MR returned error from lnk_put, last sent <type> and <file>

An error occurred while sending data to the Transfer Service. The likely cause is network failure, so try again.

- QUELOCK MR queue locked due to file not found, last sent <type> and <file> got back <type> and <code>

The NBS file containing the message may have been deleted from the Message Router directory by the DCL DELETE command.

- Mailbox not recognized <mailbox;password>

The ALL-IN-1 mailbox may not exist, or it may be defined incorrectly in the Transfer Service mailbox directory or have the wrong password.

See Map A1 10 in this chapter for a description of how to solve this problem.

6.2.2 Remote Message Router Error Messages

A number of additional error messages can appear in the Electronic Messaging error log, (OA\$MTI_ERR), when you are using a remote Message Router. These are all related to RMS errors, and in each case you should consult the VMS documentation to find out what action to take.

- `RMSGCLOSERR` Error closing file <file> - message number <RMS status> returned

An error occurred while closing the file that was sent to Message Router. The file was sent, so this is for information only.

- `RMSGETERR` Error reading file <file> - message number <RMS status> returned

An error occurred while getting a record from the file when sending to Message Router.

- `RMSOPENERR` Error opening file <file> - message number <RMS status> returned

An error occurred while opening the file. There may be a protection problem.

- `RMSPCLOSERR` Error closing file <file> - message number <RMS status> returned

An error occurred while closing the file that a message was fetched into.

- `RMSPUTERR` Error writing file <file> - message number <RMS status> returned

An error occurred while writing a record into the file when fetching a message. There may be a disk quota problem.

6.2.3 Mail Directory Error Messages

This section describes some of the most common ALL-IN-1 error messages that may be displayed when the Mail directory is in use on your node.

- `EMDDSDEFER` Your transaction has been submitted for processing

You have tried to update the Mail directory, or to search the Mail directory. The Mail directory cannot perform the requested transaction immediately.

If the transaction is an update, for example an update to a subscriber entry, it is completed later and no further action is required.

If you receive this message in response to an enquiry, for example when you use the Search mail directory (SMD) option on the Message Header menu, you do not see the result of the search. If necessary, try the enquiry again later.

- `EMDDSINVSEARCH` Specified search scope is invalid

The symbol `OA$DDS_SEARCH_SCOPE` is set to an unsupported value. This symbol specifies the type of Mail directory search. Supported values are zero (local permanent database and cache search), one (world search), and two (local permanent database, cache, and world search).

To reset `OA$DDS_SEARCH_SCOPE` to its usual value of zero, enter the following command from the ALL-IN-1 manager's ALL-IN-1 account:

```
<GET OA$DDS_SEARCH_SCOPE=0
```

- `EMDDSNOWINIT` An error has occurred initializing the mail directory

The Mail directory is not available, because it is shut down or is being reconfigured. If so, this message is displayed the first time the user selects the Electronic Messaging, Time Management, or Directories subsystems in an ALL-IN-1 session.

Find out from the Message Router manager why the Mail directory is not available. When the Mail directory is available, users should exit from ALL-IN-1 and then re-enter ALL-IN-1 to reinitialize the Mail directory.

- `EMDDSNOMOD` Could not perform all requested modifications to the mail directory

An update to a subscriber entry has been partly unsuccessful; that is, some attributes have not been updated.

Use `MBMAN` to update directly any attributes of the subscriber entry that do not match the corresponding fields in the ALL-IN-1 account details.

- `EMDDSNOWTHDIR` No other mail directories available

You have tried to search for an address, using the `SOM` (Search other mail directories) option on the Message Header menu. There are no other directories to search, because you have already done one of the following:

- At a local node, you have used the Search mail directory (`SMD`) and Search other mail directories (`SOM`) options to search for the address.
- At a world search node, you have used the `SMD` option to search for the address. (The `SOM` option provides no extra information at a world search node.)

No further action is necessary.

- `EMDDSNOWTAUTH` You could not be authenticated in the mail directory

The Mail directory is in use, but a local ALL-IN-1 user does not have a subscriber entry in the Mail directory.

There are two possible reasons:

- The Mail directory has not yet been populated with existing local users. For details of how to install the Mail directory after ALL-IN-1 and how to add existing users, see the chapter on setting up.

- The user's entry in the Mail directory has been deleted. To recreate the entry, check that the Mail Directory field in the user's account details is set to Y. Then enter the following commands from the ALL-IN-1manager's ALL-IN-1 account:

```
<GET #DDS_ACCOUNT=account_name
```

where account_name is the user's ALL-IN-1 account name.

```
<DO SUBSCRIBER_ADD
```

The user must then exit from ALL-IN-1 and then run ALL-IN-1 again to make use of the Mail directory.

- EMDDSNOTAVAIL The mail directory is not available on this system
You have tried to use the Search mail directory (SMD) or Search other mail directories (SOM) options on a node that does not use the Mail directory.

For details of how to set up the Mail directory when ALL-IN-1 is already installed, see the chapter on setting up.

- EMDDSNOTOUCH Error updating the current mail directory entry's last access time

The search itself has been successful. But:

- If the subscriber entry already exists in the local permanent database or the cache, the Mail directory cannot update its record of when the subscriber entry was last accessed
- If a world search from a local node returned a new address, the Mail directory cannot write the new subscriber entry to the cache

This message only occurs if the Mail directory becomes unavailable after a search and before the subscriber entry is updated. No further action is required.

- EMDDSNOUA The user agent is unknown in the mail directory

The user agent object that enables ALL-IN-1 to access the Mail directory has been deleted, or the password for the user agent object has changed.

For details of the procedure for solving the problem that causes this message to appear, see the next section.

6.3 Solving ALL-IN-1 Mail Problems

This section describes solutions for the following problems with ALL-IN-1 mail:

- A corrupt message is blocking the Sender queue
- A user's unread mail count is incorrect
- Users tell you that local messages are not being delivered

- Users tell you that messages are not being sent to other systems in the network
- Users tell you that messages are not being received from other systems in the network, or from local users
- ALL-IN-1 cannot connect to the Message Router Transfer Service
- The ALL-IN-1 mailbox fills up and nothing is fetched
- The Sender, OAMTISEND, shows failure to access DOCDB.DAT
- Messages are delivered to the wrong mailbox, or not delivered at all
- The Mail directory is installed on your system, but the Mail directory user agent object is not available

Symptoms:

A corrupt message is blocking the Sender queue, which may cause the Sender to fail.

Task 1:

- 1 Put the Sender on hold with the Hold Sender (HS) option on the Manage Messaging menu
- 2 Run the Sender with the Run Sender (RS) option. Repeat this the same number of times as your retry limit, for which the default is nine. (See the chapter on managing ALL-IN-1 mail for details of changing the retry limit with the SRL option.) After the Sender has failed the same number of times as the retry limit, it will delete the corrupt message from the queue, and then deliver the remaining messages.

Symptoms:

A user's unread mail count is incorrect.

Task 1:

When there are no mail messages waiting to be read, but the unread mail message counter says that there are messages waiting to be read, ask the user to:

- Check that unread mail has not been filed into a folder other than the Inbox. The Read new mail (RN) option on the Electronic Messaging menu can only be used to read new mail that is in the Inbox folder.
- Read all unread mail.

If the count is still incorrect, use the Reset user's unread count (RUC) option on the Manage Messaging menu. This sets the unread mail count to zero.

Symptoms:

Users tell you that local messages are not being delivered.

Task 1:

In most cases, the user who sends a message that does not reach the recipient receives a non-delivery message explaining why the message was not delivered.

If a non-delivery message is received, correct the problem using the information in the non-delivery message.

Task 2:

If a non-delivery message is not received, you must find out when the message was sent. Check that the message is not still in the user's Created folder or refiled into another folder. To do this use the Index (I) option and specify UNSENT in the Status field. In addition, check that autofoward is not set.

Task 3:

If the message has a Message Router identifier, as shown by the Show Header (SH) option on the Electronic Messaging menu, check that the addressee's account is set up correctly. In particular, check that the Mail destination field is set to ALL-IN-1 or ALLIN1, and that the Node field contains either the name of the local node or all spaces, or for an ALL-IN-1 system on a cluster, all spaces.

Symptoms:

Users tell you that messages are not being sent to other systems in the network.

Task 1:

Check that the Sender is on the system batch queue. You can use either the Display status (DS) option on the Manage Messaging menu or the DCL command SHOW QUEUE/BATCH/ALL to do this.

Check that the Sender is also running under the username of the Postmaster's VMS account; the username is usually ALLIN1. If it is not, then stop the Sender, delete it from the batch queue using DCL commands, and then start it again from the ALL-IN-1 manager's account using the Start Sender (SS) option on the Manage Messaging menu.

Task 2:

If this is not the problem, then check that the Message Router mailbox is set up correctly. For example, check that the logical name OA\$MTI_MAILBX defines the name of the ALL-IN-1 mailbox. The mailbox name is usually A1. See MAP A1 9 for details of setting up the ALL-IN-1 mailbox correctly.

Symptoms:

Users tell you that messages are not being received from other systems in the network, or from local users.

Task 1:

Check the error log file, OA\$MTI_ERR, for possible causes.

Task 2:

Check the Fetcher log file, OAMTIMAIL.LOG.

Task 3:

Ensure that the Fetcher, OAMTIMAIL, is on the batch queue OA\$MTI_QUEUE.

Symptoms:

ALL-IN-1 cannot connect to the Message Router Transfer Service. The following message is logged in the Electronic Messaging error log, OA\$MTI_ERR, when ALL-IN-1 attempts to send a message:

```
Mailbox not recognized <mailbox;password>
```

where mailbox is the ALL-IN-1 mailbox and password is the mailbox password.

The problem has one of the following causes:

- The ALL-IN-1 mailbox does not exist, or it is defined incorrectly in the Message Router database. See Task 1 below.
- The ALL-IN-1 record of the ALL-IN-1 mailbox password does not match the record in Message Router. See Task 2 below.

Task 1:

Check that the ALL-IN-1 mailbox is correctly defined by the logical name OA\$MTI_MAILBX, and in the Transfer Service mailbox directory.

- 1 Log in to the MBMANAGER account.
- 2 Check that the ALL-IN-1 mailbox is correctly defined by the logical name OA\$MTI_MAILBX, by entering:

```
$ SHOW LOGICAL OA$MTI_MAILBX
```

This shows the name of the ALL-IN-1 mailbox, for example:

```
"OA$MTI_MAILBX" = "A1"
```

- 3 If the logical name is not defined, define it:

```
$ DEFINE /SYSTEM /EXECUTIVE_MODE OA$MTI_MAILBX mailbox
```

where mailbox is the name of the ALL-IN-1 mailbox.

You need SYSNAM privilege to do this, or be logged into the ALL-IN-1 manager's ALL-IN-1 account. To make this change permanent, you must also redefine the logical name in the startup file A1V24_SITE_START.COM.

- 4 Run MRMAN:
- 5 Display the ALL-IN-1 mailbox entry from the Transfer Service mailbox directory:

```
MRM> SHOW mailbox
```

where mailbox is the name of the ALL-IN-1 mailbox shown in step 2.

- 6 Check that the entry includes the COMPLETE_MESSAGES, IGNORE_SENDER, GRANT_ID and SERVICE_MESSAGES qualifiers, for example:

```
Al,      Owner=ALLIN1 Complete_Messages Ignore_Sender Grant_Id
Service_Messages
```

- 7 If the entry does not include the necessary qualifiers, add them using the MODIFY command:

```
MRM> MODIFY mailbox /SYSTEM
```

where mailbox is the name of the mailbox.

- 8 Exit from MRMAN:

```
MRM> EXIT
```

Task 2:

There is no real check, because you cannot display mailbox passwords. Instead, assume that the passwords in ALL-IN-1 and in the Message Router Transfer Service database do not agree. If Message Router is installed on the same node or cluster as your ALL-IN-1 system, change the passwords as follows:

- 1 Put the Sender and Fetcher on hold, using the Hold Sender (HS) and Hold Fetcher (HF) options on the Manage Messaging menu.
- 2 Change the mailbox password in ALL-IN-1, using the CMP option on the Manage Messaging menu. CMP automatically changes the password in the Message Router Transfer Service database.
- 3 Restart the Sender and Fetcher, using the Start Sender (SS) and Start Fetcher (SF) options on the Manage Messaging menu.

If you are using a remote Message Router, the CMP option does not automatically change the password in the Transfer Service database. Change the passwords as follows:

- 1 Put the Sender and Fetcher on hold, using the Hold Sender (HS) and Hold Fetcher (HF) options on the Manage Messaging menu.
- 2 Use the CMP option on the Manage Messaging menu to change the mailbox password in ALL-IN-1.
- 3 Set host to the node or cluster on which Message Router is installed.
- 4 Log in to the MBMANAGER account, and run MRMAN by entering:

```
$ RUN SYS$SYSTEM:MRMAN
```

- 5 Change the password for the ALL-IN-1 Message Router mailbox. Enter:

```
MRM> MODIFY mailbox/PASSWORD="password"
```

where mailbox is the name of the ALL-IN-1 mailbox that you found out in Task 1 above, and password is the new password that you entered using the CMP option. Enter the password in quotes as shown, and in UPPER CASE letters.

6 Exit from MRMAN:

MRM> EXIT

- 7 Log out from the remote processor, and run ALL-IN-1 on your own system.**
- 8 Restart the Sender and Fetcher, using the Start Sender (SS) and Start Fetcher (SF) options on the Manage Messaging menu.**

Symptoms:

The ALL-IN-1 mailbox fills up and nothing is fetched.

The Fetcher log file, OAMTMAIL.LOG, shows

`invalid password` when calling ALL-IN-1.

The problem has one of the following causes:

- The Postmaster's ALL-IN-1 password does not match that specified in OA\$LIB:OAMTMAIL.COM. See Task 1 below.
- The ALL-IN-1 Postmaster account is not a valid ALL-IN-1 user account. See Task 2 below.

Task 1:

Check the Fetcher command procedure, OA\$LIB:OAMTMAIL.COM. Find the line containing the password to ALL-IN-1, for access to the ALL-IN-1 Postmaster account. Try to log in to ALL-IN-1 as user POSTMASTER using this password.

If you cannot log in, use the ALL-IN-1 manager's account to use the Manage User Accounts (MUA) option and change the Postmaster's ALL-IN-1 password to match the password specified in the Fetcher command procedure. Alternatively you can change the password in the command procedure OA\$LIB:OAMTMAIL.COM.

Task 2:

The ALL-IN-1 Postmaster must be a valid ALL-IN-1 user account. Look at the Postmaster account details. The directory field must be completed. The directory must exist, and must contain the correct files, DOCDB.DAT and DAF.DAT.

Symptoms:

The Sender, OAMTISEND, shows failure to access DOCDB.DAT.

Only Express class messages are sent to remote addressees.

The cause is that the Sender is not running under the VMS account used by the ALL-IN-1 Postmaster account.

Task 1:

Check that the Sender is queued on a system batch queue, under the VMS username used by the ALL-IN-1 Postmaster account. Check that the VMS username on the default system is ALLIN1.

If the Sender is on the correct queue, but running under the wrong VMS username, then remove the queue entry. Enter:

```
$ SHOW QUEUE/BATCH/ALL
```

See the queue entry number for the queue defined by the logical name OA\$MTI_QUEUE. Delete the entry:

```
$ DELETE/ENTRY=jobno OA$MTI_QUEUE
```

where jobno is the job number for the Sender. Also, ensure that OA\$MTI_QUEUE identifies a valid batch queue.

Then put the Sender back on the batch queue, under the correct VMS username. To do this, run ALL-IN-1 from the ALL-IN-1 manager's account and use the Start Sender (SS) option on the Manage Messaging menu. Alternatively, log in to the Postmaster's VMS account (the default account name is ALLIN1) and enter the command:

```
$ SUBMIT OA$LIB:OAMTISEND/QUEUE=OA$MTI_QUEUE
```

Symptoms:

Messages are delivered to the wrong mailbox, or not delivered at all.

The cause is that messages are not properly addressed. The entry in the network profile or the Mail directory may be out-of-date.

Task 1:

Check that the message was correctly addressed. For example, if a message is addressed to:

SMITH@NODE1

instead of

SMITH@A1@NODE1

then it will not be delivered to ALL-IN-1. Message Router attempts to deliver it to a mailbox called SMITH at NODE1. If such a mailbox exists, but is not checked regularly by its owner, then a message can apparently disappear.

Task 2:

Use the Maintain mail addresses (MAD) option on the Manage Messaging menu to check that the Network Address field in the addressee's network profile entry is up-to-date. (An entry for a non-ALL-IN-1 user, added by the MAD option, is not automatically updated.)

If the Mail directory is in use on your node, check that the correct address is in the Mail directory. To do this, find the user's entry in the Mail directory, using the Search mail directory (SMD) option from the Directories menu, and then use the Read (R) option to display the entry. If you are on a node that is not a world search node, update the cache entry for the address by using the Search other mail directories (SOM) option on the Message Header menu.

Symptoms:

The Mail directory is installed on your system, but the Mail directory user agent object is not available. The following error message is displayed:

```
EMDDSN0UA The user agent is unknown in the mail directory
```

The problem has one of the following causes:

- The Mail directory user agent object has been deleted. See Task 1 below.
- The Mail directory user agent password has changed. See Task 2 below.

Task 1:

If the Mail directory user agent object has been deleted:

- 1 Log in to the MBMANAGER account, and run MBMAN by entering:

```
$ RUN SYS$SYSTEM:MBMAN
```

- 2 Create the user agent object that ALL-IN-1 will use to access the Mail directory, and add it to the Mail directory:

```
MBMAN> BUILD DDS UA /NAME="uname"/PASSWORD="password"
MBMAN> ADD DDS BUILT_OBJECT/LOG
```

where:

- `uname` is the name of the user agent object. The name is in the form `OA$node$ALLIN1`, where `node` is the node or cluster on which you are setting up the Mail directory.
 - `password` is the password that ALL-IN-1 will use to access the user agent object. This must not be more than eight characters long.
- 3 Modify the subscriber entry in the Mail directory for the ALL-IN-1 manager, as follows:

```
MBMAN> SELECT DDS SUBSCRIBER /SURNAME="MANAGER" /qualifiers
MBMAN> MODIFY DDS SUBSCRIBER /PROXY="uname"
MBMAN> MODIFY DDS SUBSCRIBER /SUBID="uname"
MBMAN> ADD DDS MODIFIED_OBJECT/LOG
MBMAN> EXIT
```

where:

- `MANAGER` is the name of the ALL-IN-1 manager's ALL-IN-1 account, and must be entered as shown. Do not enter someone's own account name.
- `qualifiers` are any qualifiers and values that identify the manager's subscriber entry
- `uname` is the name of the user agent object that you specified in step 2.

- /PROXY="uname" grants the user agent, ALL-IN-1, proxy access to the manager's subscriber entry. This enables ALL-IN-1 to carry out operations for the manager. The manager does not then require the same privileges as the user agent.
 - /SUBID="uname" gives the user agent name as the unique identity of the manager's subscriber entry.
- 4** From the ALL-IN-1 manager's ALL-IN-1 account, write the name and password of user agent object to the ALL-IN-1 file UAPASSWRD.DAT. Enter:

```
<CREATE UAPASSWRD
<GET #UA="uname"
<GET #PW="password"
<WRITE ADD UAPASSWRD UACOMMNAME=#UA, UAPASSWORD=#PW
```

where:

- uname is the name of the user agent object that you specified in step 2
 - password is the password that you specified in step 2
- 5** Create temporary symbols for the values needed by the script USERAGENT_POST.SCP, which you will run in the next step. Enter:

```
<GET #ORNAME="orgname"
<GET #LOCATION="location"
```

If area routing is in use for your system, enter:

```
<GET #AREA="area_code"
```

where:

- orgname is the name of your company or organization, this must not be more than 64 characters
- location is the location of your ALL-IN-1 users, this must not be more than 20 characters
- area_code is the area code for the area that includes your system.

To find out what the area code is, run the MAILbus configuration procedure and show the details of the Transfer Service. At the system prompt, enter:

```
$ @SYSSMANAGER:MB$CONFIG
MBC> SHOW TS
```

The configuration procedure displays details of the Transfer Service, including:

```

.
.
.
Transfer Service uses area routing
Area code: area_code
.
.
.

```

where `area_code` is the area code in use at your site.

6 From ALL-IN-1, run the script `USERAGENT_POST.SCP`:

```
<DO USERAGENT_POST.SCP
```

For details of what this script does, see the chapter on setting up.

Task 2:

If the Mail directory user agent password in the file `UAPASSWRD.DAT` has changed, you must change it back to the original password specified when the Mail directory was set up. (The Mail directory may have been set up during ALL-IN-1 installation, or it may have been set up after ALL-IN-1 installation, as described in the chapter on setting up an ALL-IN-1 mail system.)

Enter:

```
<FORM UAPASSWRD/MODE=CHANGE
```

The User Agent Management form is displayed. Enter the Mail directory user agent object name, then enter the original password, then press RETURN. The password is written to `UAPASSWRD.DAT`.

6.3.1 Management Action Procedures (MAPs)

A MAP contains a description of tasks to follow in order to solve a problem. There is a MAP for each of the problems in ALL-IN-1 that can be detected by the Message Router exception reporting procedures. Follow the instructions in a MAP carefully. You might not need to carry out all the tasks in a MAP. Carry out the task on the node that sent the exception report, unless the MAP tells you otherwise. Some of the MAPs describe problems that require the help of other managers in your network, such as the ALL-IN-1 manager. The MAPs tell you who to contact and what to ask them to do.

Each task has a rating to show the level of difficulty. They range from one star (*) for an easy task to four stars (****) for a difficult task requiring detailed knowledge of ALL-IN-1 and other products. The ratings are as follows:

Table 6-1 Task Ratings

Rating	Definition
*	The task does not require any decisions. Full instructions are given in the MAP.
**	The task requires simple decisions, based on information given or found by following the instructions in the MAP.
***	The task requires decisions based on the information given. It requires a little knowledge of the ALL-IN-1 Electronic Messaging subsystem.
****	The task requires decisions based on a detailed knowledge of the ALL-IN-1 Electronic Messaging subsystem and other products in the network.

If you think the task is too difficult, contact your internal support department or Digital for assistance. To contact Digital:

- Contact your Customer Support Center, if you have a service contract
- Contact your local Digital office to arrange for a service contract, if you do not have one

MAP A1 1

DEVFULL - Device <device> used by A1 is full

DEVLOW - Device <device> used by A1 has insufficient free blocks ...

where <device> is the name of the device used to store the ALL-IN-1 data directory, OA\$MTI_DATA.

The alarm level which generates this report is specified when exception reports are enabled for ALL-IN-1. The default number of blocks is 6000. See the chapter on setting up for details.

Task 1 **

Log in to the SYSTEM account and examine the space on the device:

```
$ SHOW DEVICE device
```

where device is the name of the device displayed in the error message.

The number of free blocks on the device is displayed. If the number of blocks available is less than the alarm level for the number of free blocks you specified in the configuration procedure, you have an insufficient number of free blocks. Carry out Task 2.

Task 2 **

Check whether the mail areas, OA\$SHARynnnn (where y is letter A, B, C, D or E and n is a number), and the ALL-IN-1 data directory, OA\$MTI_DATA, are on the same disk. To do this, log in to the SYSTEM account and enter:

```
$ SHOW LOGICAL OA$MTI_DATA
```

The following is an example of what appears on your screen:

```
"OA$MTI_DATA" = "ALLIVE:[ALLIN1.DATA]"
```

This shows which disk OA\$MTI_DATA is on.

Then enter:

```
$ SHOW LOGICAL OA$SHAR*
```

This shows which disks the OA\$SHARynnnn directories are on. The following is an example of what appears on your screen:

```
"OA$SHARA3" = "ALLIVE:[ALLIN1.SHARA3]"
"OA$SHARB12" = "ALLIVE:[ALLIN1.SHARB12]"
"OA$SHARC15" = "ALLIVE:[ALLIN1.SHARC15]"
```

If the OA\$SHARynnnn and OA\$MTI_DATA directories are not on the same disk, you cannot delete any files on the disk. Tell the VMS system manager that there are space problems on the device.

If the directories are on the same disk, you can make space by deleting files on the disk. Ask the ALL-IN-1 administrator to schedule the procedure to delete the files in users' wastebaskets.

When the ALL-IN-1 manager tells you that this procedure has finished running, check the space on the device as described in Task 1.

If you still do not have sufficient space, tell the VMS system manager that there are space problems on the device.

MAP A1 2 NOALJOB - Cannot access ALL-IN-1 <job> operation

where <job> is either SEND or FETCH

Task 1 **

Carry out this task if the job mentioned in the exception report is FETCH.

- 1 Log in to the ALL-IN-1 manager's VMS account.
- 2 Check that the file FETCHCHECK.EXE exists, and has the protection, RWED,RWED,RWED,RE, by entering:

```
$ DIRECTORY /PROTECTION OA$LIB:FETCHCHECK.EXE
```

- 3 If the protection is wrong, change it by entering:

```
$ SET PROT=(S:RWED,O:RWED,G:RWED,W:RE) OA$LIB:FETCHCHECK.EXE
```

Task 2 **

Carry out this task if the job mentioned in the exception report is SEND.

- 1 Log in to the ALL-IN-1 manager's VMS account.
- 2 Check that the file SENDCHECK.EXE exists, and has the protection, RWED,RWED,RWED,RE, by entering:

```
$ DIRECTORY /PROTECTION OA$LIB:SENDCHECK.EXE
```

- 3 If the protection is wrong, change it by entering:

```
$ SET PROT=(S:RWED,O:RWED,G:RWED,W:RE) OA$LIB:SENDCHECK.EXE
```

MAP A1 3

NOLOGICAL - Logical name <logical> is not defined. All checks not performed

where <logical> is one of the following:

- OA\$LIB
- OA\$MTI_DATA
- MB\$ROOT

Task 1 *

If the logical name in the error message is either OA\$LIB or OA\$MTI_DATA, ask the ALL-IN-1 manager if the logical has been deassigned for a particular reason. If the ALL-IN-1 manager has not deassigned the logical name, redefine it by executing the ALL-IN-1 startup command procedure.

Log in to the SYSTEM account and enter:

```
$ @SYS$MANAGER:A1V24START
```

Use this command on every node in a VAXcluster.

Task 2 *

If the logical name in the error message is MB\$ROOT, this exception condition might have been reported in Message Router. Ask the Message Router manager if this error message has been reported in Message Router and if he has recovered from it. If he has not recovered from it, you must restart the exception reporting routines. To do this:

- 1 Log in to the SYSTEM account
- 2 Start the exception reporting routines:

```
$ @SYS$MANAGER:MB$CONTROL START=ER
```

Use this command on every node in a VAXcluster that you want to run exception reporting on.

MAP A1 4

NODEVICE

NODEVICE - Device <device> used by A1 is not on line

where <device> is the name of the device that is off line.

Task 1 *

The device may be off line for maintenance. If you do not know why the device is off line, ask the VMS system manager.

Ask the VMS system manager to tell you when the device has been put on line again.

MAP A1 5

OAFET - <number> messages waiting to be fetched by ALL-IN-1

where <number> is the number of messages waiting to be fetched.

The alarm level which generates this report is specified when exception reports are enabled for ALL-IN-1. The default number of messages is three. See the chapter on setting up for details.

This report refers to the number of messages in the Fetcher queue, not in the mailbox. It is generated when corrupt messages are blocking the queue.

Task 1 *

Examine the error log file OA\$MTI_ERR, and look for an error message indicating the reason for the failure. To do this, log in to the ALL-IN-1 manager's VMS account and enter:

```
$ TYPE OA$MTI_ERR
```

If an error is shown, refer to the section on the error log messages in the error log file. If no error is indicated, carry out Task 2.

Task 2 *

The ALL-IN-1 Fetcher may not be working. Check this by completing the following steps:

- 1 Log in to the ALL-IN-1 manager's ALL-IN-1 account.
- 2 Enter `DS` at the Manage Messaging menu to display the status of the Fetcher.
- 3 If the Fetcher is STOPPED, ON HOLD, or NOT ON QUEUE, ask the ALL-IN-1 manager if the Fetcher is stopped for a particular reason. If the ALL-IN-1 manager did not stop the Fetcher, carry out Task 3. Otherwise, exit from ALL-IN-1 by entering `EX`.

Task 3 *

From the ALL-IN-1 manager's ALL-IN-1 account, restart the Fetcher using the Start fetcher (SF) option from the Manage Messaging menu.

Task 4 **

There may be some corrupt messages on the queue.

The Fetcher deletes a message from the queue after it has failed to send it the number of times given by the retry limit (the default is ten times).

- 1 Log in to the ALL-IN-1 manager's ALL-IN-1 account.
- 2 Enter `SRL` at the Manage Messaging menu.

- 3 Take note of what the current retry limit is for the Fetcher, because you will need to set it back to this afterwards.
- 4 Enter 0 in the Number of Fetcher Retries field.
- 5 Enter `RF` to run the Fetcher.
- 6 Reset the retry limit to what it was before, using the SRL option.

MAP A1 6

OASEN - <number> messages waiting to be sent by ALL-IN-1

where <number> is the number of messages waiting to be sent.

The alarm level which generates this report is specified when exception reports are enabled for ALL-IN-1. The default number of messages is 15. See the chapter on setting up for details.

Task 1 *

Examine the error log file OA\$MTI_ERR, and look for an error message indicating the reason for the failure. To do this, log in to the ALL-IN-1 manager's VMS account and enter:

```
$ TYPE OA$MTI_ERR
```

If an error is shown, refer to the section on error log messages. If no error is indicated, carry out Task 2.

Task 2 **

The ALL-IN-1 Sender might not be working. Check this by completing the following steps:

- 1 Log in to the ALL-IN-1 manager's ALL-IN-1 account.
- 2 Enter `DS` at the Manage Messaging menu to display the status of the Sender.
- 3 If the Sender is STOPPED, ON HOLD, or NOT ON QUEUE, ask the ALL-IN-1 manager if the Sender is stopped for a particular reason. If the ALL-IN-1 manager did not stop the Sender, carry out Task 3. Otherwise, exit from ALL-IN-1 by entering `EX`.

Task 3 *

From the ALL-IN-1 manager's ALL-IN-1 account, restart the Sender using the Start Sender (SS) option from the Manage Messaging menu.

Task 4 *

This task must only be carried out if the above tasks have been completed and you still receive this error message.

If the alarm level is triggered frequently by a high volume of mail, you will receive this error message repeatedly. To receive fewer error messages, you can adjust the alarm level of the number of messages waiting to be sent by ALL-IN-1. This is described in the chapter on setting up an ALL-IN-1 mail system.

MAP A1 7

SWVERS - Incompatible software version <version> on node -
<nodename> no A1 checks performed

where:

- <version> is the version of Message Router running on the node
- <nodename> is the name of the node

Task 1 ★

This error message might have been reported as an exception condition in Message Router. Ask the Message Router manager if this SWVERS error has been reported in Message Router and if he or she has recovered from it. If he or she has not recovered from this error, carry out Task 2.

Task 2 ★

Version 3.1 of Message Router is not installed correctly on the node. This node cannot be monitored for the exception conditions by the Version 3.1 system.

Ask the Message Router manager to reinstall Message Router on the node, as described in the Message Router documentation. This Task has a rating of ***.

MAP A1 9

This MAP explains how to recover from the error OLDMR, described in the Message Router documentation. This error indicates that messages have been in the ALL-IN-1 mailbox queue for more than two hours. Other errors might have been reported in relation to this error such as BADIDENT.

Task 1 **

The reason for the blocked queue might already be reported. Examine the error log file OA\$MTI_ERR and check the Fetcher log file. Look for an error message indicating the reason for the failure.

- 1 Check the error log file OA\$MTI_ERR. To do this, log in to the ALL-IN-1 manager's VMS account and enter:

```
$ TYPE OA$MTI_ERR
```

If an error is shown, refer to the section on error log messages. If the error message contains the name of the Message Router facility, MROUTER, it is a Message Router error which the Message Router manager should solve. Ask the Message Router manager to recover from the error shown in the error log file.

If no error is indicated, carry out step 2.

- 2 Check the Fetcher log file. To do this, log in to the ALL-IN-1 manager's VMS account and enter:

```
$ TYPE OAMTIMAIL.LOG
```

If an error is shown, refer to the section on Error Log Messages.

If no error is indicated, carry out Task 2.

Task 2 *

The ALL-IN-1 Fetcher might not be working. Check this by completing the following steps:

- 1 Log in to the ALL-IN-1 manager's ALL-IN-1 account.
- 2 Enter `DS` at the Manage Messaging menu to display the status of the Fetcher.
- 3 If the Fetcher is STOPPED, ON HOLD, or NOT ON QUEUE, ask the ALL-IN-1 manager if the Fetcher is stopped for a particular reason. If the ALL-IN-1 manager did not stop the Fetcher, carry out Task 3. Otherwise, exit from ALL-IN-1 by entering `EX`.

Task 3 *

From the ALL-IN-1 manager's ALL-IN-1 account, restart the Fetcher using the Start Fetcher (SF) option from the Manage Messaging menu.

Task 4 **

Find out the name of the ALL-IN-1 mailbox and check that it has the correct entries:

- 1 Log in to the MBMANAGER account.

- 2 Find out the name of the ALL-IN-1 mailbox. To do this, enter:

```
$ SHOW LOGICAL OA$MTI_MAILBX
```

This shows the name of the ALL-IN-1 mailbox, for example:

```
"OA$MTI_MAILBX" = "A1"
```

- 3 Run MRMAN:

```
$ RUN SYS$SYSTEM:MRMAN
```

- 4 Display the ALL-IN-1 mailbox entry. To do this, enter:

```
MRM> SHOW mailbox
```

where `mailbox` is the name of the ALL-IN-1 mailbox shown in step 2.

The entry in the Transfer Service mailbox directory for ALL-IN-1 should include the `COMPLETE_MESSAGES`, `IGNORE_SENDER`, `GRANT_ID` and `SERVICE_MESSAGES` qualifiers, for example:

```
A1,      Owner=ALLIN1 Complete_Messages Ignore_Sender Grant_Id  
Service_Messages
```

- 5 If the entry does not include the necessary qualifiers, add them using the `MODIFY` command:

```
MRM> MODIFY mailbox /SYSTEM
```

where `mailbox` is the name of the ALL-IN-1 mailbox.

- 6 Exit from MRMAN:

```
MRM> EXIT
```

MAP A1 10

This MAP explains how to recover from the error BADIDENT, described in the Message Router documentation. The BADIDENT error message shows that ALL-IN-1 tried to connect to Message Router but could not be identified. This may be due to an incorrect password for the ALL-IN-1 mailbox, or incorrect qualifier for the mailbox.

Task 1 **

Examine the error log file OA\$MTI_ERR and check the Fetcher log file. Look for an error message indicating the reason for the failure.

- 1 Check the error log file OA\$MTI_ERR. To do this, log in to the ALL-IN-1 manager's VMS account and enter:

```
$ TYPE OA$MTI_ERR
```

If an error is shown, refer to the section on the error log messages. If the error message contains the name of the Message Router facility, MROUTER, it is a Message Router error which the Message Router manager should solve. Ask the Message Router manager to recover from the error shown in the error log file.

If no error is indicated, carry out step 2.

- 2 Check the Fetcher log file. To do this, log in to the ALL-IN-1 manager's VMS account and enter:

```
$ TYPE OAMTIMAIL.LOG
```

If an error is shown, refer to the section on error log messages.

If no error is indicated, carry out Task 2.

Task 2 **

Redefine the ALL-IN-1 mailbox and set the correct password and qualifiers for the mailbox. To do this:

- 1 Log in to the MBMANAGER account.
- 2 Find out the name of the ALL-IN-1 mailbox. To do this, enter:

```
$ SHOW LOGICAL OA$MTI_MAILBX
```

This shows the name of the ALL-IN-1 mailbox, for example:

```
"OA$MTI_MAILBX" = "A1"
```

- 3 Run MRMAN:

```
$ RUN SYS$SYSTEM:MRMAN
```

- 4 Display the ALL-IN-1 mailbox entry:

```
MRM> SHOW mailbox
```

where mailbox is the name of the ALL-IN-1 mailbox shown in step 2.

The entry in the Transfer Service mailbox directory for ALL-IN-1 should include the COMPLETE_MESSAGES, IGNORE_SENDER, GRANT_ID and SERVICE_MESSAGES qualifiers, for example:

```
Al,      Owner=ALLIN1 Complete_Messages Ignore_Sender Grant_Id
Service_Messages
```

MRMAN does not display the password on the screen.

- 5 If the entry does not include the necessary qualifiers, add them using the MODIFY command:

```
MRM> MODIFY mailbox /SYSTEM
```

where mailbox is the name of the ALL-IN-1 mailbox.

- 6 Exit from MRMAN:

```
MRM> EXIT
```

- 7 Ensure that the password for Message Router in ALL-IN-1 agrees with the password for the ALL-IN-1 mailbox.

If Message Router is installed on the same node or cluster as your ALL-IN-1 system, change the passwords as follows:

- a Put the Sender and Fetcher on hold, using the Hold Sender (HS) and Hold Fetcher (HF) options on the Manage Messaging menu.
- b Change the mailbox password in ALL-IN-1, using the CMP option on the Manage Messaging menu. CMP automatically changes the password in the Message Router Transfer Service database.
- c Restart the Sender and Fetcher, using the Start Sender (SS) and Start Fetcher (SF) options on the Manage Messaging menu.

If you are using a remote Message Router, the CMP option does not automatically change the password in the Transfer Service database. Change the passwords as follows:

- a Put the Sender and Fetcher on hold, using the Hold Sender (HS) and Hold Fetcher (HF) options on the Manage Messaging menu.
- b Use the CMP option on the Manage Messaging menu to change the mailbox password in ALL-IN-1.
- c Set host to the node or cluster on which Message Router is installed. Enter:

```
$ SET HOST nodename
```

where nodename is the name of the remote processor on which Message Router is installed.

- d Log into the MBMANAGER account, and run MRMAN by entering:

```
$ RUN SYS$SYSTEM:MRMAN
```

- e** Change the password for the ALL-IN-1 Message Router mailbox.
Enter:

```
MRM> MODIFY mailbox/PASSWORD="password"
```

where mailbox is the name of the ALL-IN-1 mailbox that you found out in step 2, and password is the new password that you entered using the CMP option. Enter the password in quotes as shown, and in UPPER CASE letters.

- f** Exit from MRMAN:

```
MRM> EXIT
```

- g** Log out from the remote processor, and run ALL-IN-1 on your own system.
- h** Restart the Sender and Fetcher, using the Start Sender (SS) and Start Fetcher (SF) options on the Manage Messaging menu.

Logical Names Used in ALL-IN-1 Mail

Table A-1 shows the logical names that ALL-IN-1 uses to identify files and other elements of a mail system. These logical names are defined in the ALL-IN-1 startup file SYS\$MANAGER:A1V24START.COM.

Table A-1 Logical Names

Logical Name	Description and Default
MR\$NODE	This defines whether Message Router is available. Set this to, nodename::"22=", where 'nodename' is the name of the node on which Message Router is installed, to inform ALL-IN-1 that Message Router is available.
OA\$DDS_PRIME	Defines whether the ALL-IN-1 directory or the Mail directory is the primary directory. If this value is 1, the ALL-IN-1 directory is the primary directory. If this value is 2, the Mail directory is the primary directory. If the Mail directory is not installed on your node, the ALL-IN-1 installation procedure sets OA\$DDS_PRIME to 0.
OA\$MAIL_NUM_ADDRESSES	The number of addressees on a message. How you set this value controls how ALL-IN-1 prints and displays the list of addressees on the message. The default value is 5.

(continued on next page)

Table A-1 (Cont.) Logical Names

Logical Name	Description and Default
OA\$MTI_AREA	This defines the area code for your system. It is only necessary if your system does not use the Mail directory, and does use area routing. Set this to: OA\$MTI_MAILBX @OA\$PRIMARY_NODE @area where area is the area code for your system. You must define this logical name to enable users on other systems to reply to mail from your system.
OA\$MTI_DATA	The directory holding ALL-IN-1 mail work files. The default is disk:[ALLIN1.DATA], where disk is the device specified during installation, and ALLIN1 is the default name of the ALL-IN-1 Manager's VMS account.
OA\$MTI_ERR	The Electronic Messaging error log file. The default is MTIERR.LOG in the ALL-IN-1 manager's directory.
OA\$MTI_LIMIT_LISTS	Define this logical to be 1 if there are any nodes in your network running versions of ALL-IN-1 earlier than Version 2.3. This value applies a maximum limit to the number of addressees for a message.
OA\$MTI_LOG	The accounting log file, for which the default is MTILOG.LOG in the ALL-IN-1 manager's directory.
OA\$MTI_MAILBX	The Message Router mailbox used by ALL-IN-1 mail. The default name for the mailbox is A1.
OA\$MTI_MR_NODE	The remote node at which Message Router is installed. If Message Router is installed locally, this logical is not defined.
OA\$MTI_OPER	The operator's terminal. The default is OPA0:
OA\$MTI_QUEUE	The batch queue for the Sender and Fetcher batch jobs. The default queue is SYS\$BATCH.
OA\$MTI_TRNS	Defines whether non-ASCII messages (for example, WPS-PLUS) are translated into ASCII before they are sent to a remote node. If this value is 0, the message is sent without translation. If this value is 1, the message is translated into ASCII.
OA\$PRIMARY_NODE	The addressing node name of your cluster. This is defined at installation.

(continued on next page)

Table A-1 (Cont.) Logical Names

Logical Name	Description and Default
OA\$SHARynnn	Where y is a letter between A and E, and n is a number between 1 and 9. These are the mail area directories and contain the system DAF files, OA\$DAF_y.DAT.

Table A-2 shows the symbols that the ALL-IN-1 mail system uses.

Table A-2 Symbols

Symbol	Description and Default
OA\$DDS_AREA_ROUTE	If the Mail directory is installed on your system, this defines the part of a user's mail address that is added when sending mail to another system, to identify your system.
OA\$DDS_NODE_TYPE	Defines whether your node is world search or not. Set this value to 0, if you do not want your system to be a world search node. Set this value to 1, if you want your system to be a world search node.
OA\$DDS_SEARCH_SCOPE	This symbol specifies the type of Mail directory search ALL-IN-1 performs when users choose the SMD option. If this value is 0 ALL-IN-1 performs local Mail directory database and cache search. If this value is 1 ALL-IN-1 performs world search. If this value is 2 ALL-IN-1 performs local Mail directory database, cache, and world search.
OA\$MTI_SENDER_RETRY_LIMIT	This symbol specifies the number of times the Sender tries to send a message before deleting the message from the queue
OA\$MTI_FETCHER_RETRY_LIMIT	This symbol specifies the number of times the Fetcher tries to send a message before deleting the message from the queue

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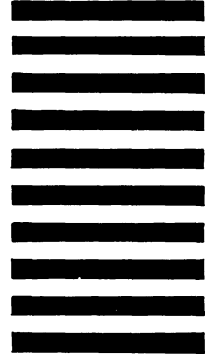
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